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THE ATROPIN TEST IN THE DIAGNOSIS OF TYPHOID INFECTIONS

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AND

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With all appreciation of the minimizing effect of typhoid-paratyphoid prophylaxis on typhoid infections in army camps, it is still reasonable to anticipate the occurrence of occasional camp cases. The larger number of such cases will probably arise from among unvaccinated civilian workmen and from the improperly vaccinated soldier. In typhoid infections appearing in persons who have received typhoid prophylaxis completely or incompletely, the disease will usually be characterized by such mildness as not to present the outstanding features of typhoid that so readily permit a diagnosis among the unvaccinated. Facing this difficulty in the recognition of typhoid existence, those medical officers responsible for the prevention of infectious diseases in army camps, and those on whom will devolve the care and treatment of suspected cases, are evaluating all recent developments purporting to be of additional diagnostic aid. At a similar period in the making of the British Army there came into use the atropin test as a means for the detection of typhoid infections. The British Medical Research Committee has sanctioned this test's reliability to the extent of issuing a monograph on the subject, prepared by Marris.[1]

In this hospital up to the present time no cases of typhoid have occurred; but in order to be conversant with the merits and technic of the atropin test against the contingency of typhoid outbreak, 228 cases of diverse diseases other than typhoid and paratyphoid have been tested in the manner described by Marris. The results form the basis of this report.

THE RATIONALE AND TECHNIC OF THE ATROPIN TEST

According to the sponsors of this test, the normal individual or the patient ill of diseases other than typhoid infections responds to the administration of atropin with a noteworthy increase in heart rate. In typhoid patients, however, this acceleration either does not occur or occurs to a lessened degree. This difference is attributed to an antagonism of action between the alkaloid and the toxins produced by the organisms of the typhoid group. This relative lack of response to atropin is the basis of the test, the application of which is as now noted:

The patient lies horizontally and is instructed to remain completely at rest throughout this test, which is not employed until at least one hour has elapsed from the last meal. The pulse rate is counted minute by minute until it is found to be steady; ten minutes of such counting usually suffices. Atropin sulphate is then injected hypodermically in the dose of 1/33 grain, preferably over the triceps region to insure rapid absorption. An interval of twenty-five minutes is allowed to elapse, and the pulse rate is again counted, minute by minute, until it is clear that any rise which may follow the injection has passed off; fifteen or twenty minutes may be necessary for this purpose when the pulse rate is raised at the first count.

If, for example, a near constant pulse rate of 70 was exhibited at the preliminary counting, and a maximum of 96 was exhibited as the pulse rate subsequent to atropin injection, the inference after this acceleration of twenty-six beats per minute would, under the provisions of the test, be that the condition was not typhoid. If, however, the rate after atropin had attained only to 78 beats per minute as the maximum, the inference is tenable that the existing condition is one of the typhoid group. The test does not discriminate between typhoid and paratyphoids A and B. In Marris' report, the line of demarcation for the interpretation as existing typhoid or nontyphoid is placed at 15; that is, if the acceleration following atropin is less than fifteen beats per minute, typhoid is indicated; if the increase is fifteen or more per minute, typhoid is not indicated. A "positive" atropin reaction is one giving rise to little or no increased heart rate after atropin administration (fourteen or less per minute). A "negative" reaction is one giving rise to an increase of fifteen or greater.

If the patient is admitted during the first fortnight of his illness, the test is applied as soon as possible after admission and is charted with the temperature. When a positive reaction (little or no response to atropin) is obtained, the diagnosis of infection with a member of the enteric group of organisms may be made. In the case of a negative reaction, the test should be repeated after two or three days, and if again negative, it is again repeated. Three negative reactions falling within the first fortnight of the illness exclude the presence of typhoid with a considerable degree of certainty; there are rare exceptions, and in these a continuation of the test is usually suggested by the symptoms and remaining clinical signs.

In the normal individual to whom has been administered 1/30 or 1/33 grain of atropin, some or all of the following manifestations may be expected to occur: A slight and transient decrease of the pulse rate (two or four beats per minute) occurs early with a return to normal. This is followed by a rapid increase in heart

1. Marris, F. A.: Use of Atropin as Aid to Diagnosis of Typhoid and Paratyphoid A and B Infections, Brit. Med. Jour., 1916, **2**, 717.

rate of from twenty to thirty-five beats. The height of this acceleration is reached in about one-half hour, slowly returning to normal in one or two hours. The classical characteristics of atropin action, lessened secretions and dilated pupils, seldom are observable during the testing period, but at times may be noted within an hour or more subsequent to the testing.

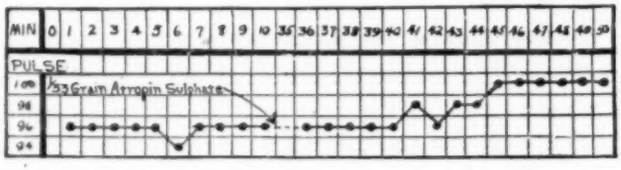

Chart 1.—Typical positive atropin test in measles patient presenting clinical manifestation similar to those of the patient whose reaction is shown in Chart 2. The broken line after the administration of the atropin represents an interval of twenty-five minutes.

Marris' report records 111 cases of typhoid infections in which a diagnosis was definitely established through the isolation of the organism from blood cultures. The atropin test was accurate in 98 per cent. In these cases the pulse acceleration averaged only 6.6 beats per minute. In another group of patients observed by the same writer, of 247 diagnosed by the less definite agglutination method as having typhoid, 222 reacted accurately to the test. Agglutination as a diagnostic procedure has become of less value because of frequent agglutination concomitant to typhoid prophylaxis.

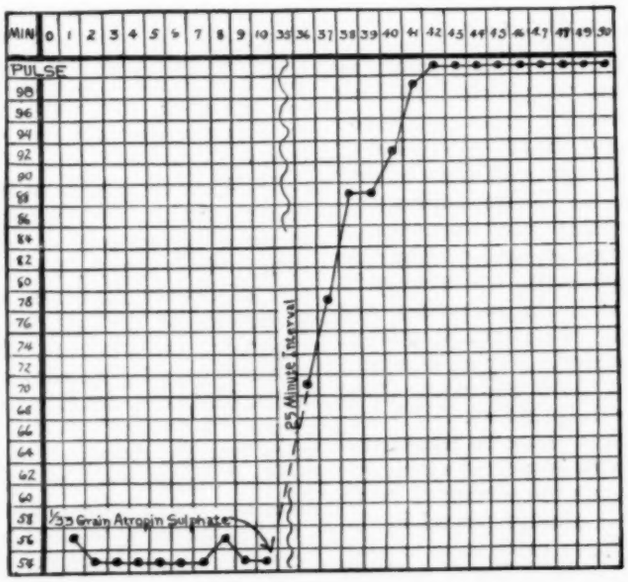

Chart 2.—Typical negative atropin test in measles patient presenting clinical manifestation similar to those of the patient in Chart 1.

At the Royal Victoria Hospital in Montreal, Mason[2] made use of the atropin test as a diagnostic aid during an epidemic of typhoid infections. The technic employed was essentially that described by Marris. In all, 265 tests were made in sixty-three cases of typhoid or paratyphoid. Fifty-six of the number were cases of typhoid fever established by positive blood cultures or by Widal reactions in dilution higher than one in forty. Five of the cases were paratyphoid B, diagnosed bacteriologically, while the remaining two cases were clinically typhoid but the diagnosis was unconfirmed by any bacteriologic or serologic findings. Of the total number (sixty-three patients), fifty-seven were males and six were females; no sex variations were observed. Eleven of the sixty-three failed to give a positive reaction to the atropin test. This departure from the anticipated positive reaction is attributed by Mason to be due in part to the fact that in certain cases only one test was carried out, in part to the restlessness of some of the patients under test conditions. The reaction became positive about the tenth day and disappeared about the thirty-first day of the infection. As a check for these known typhoid and paratyphoid cases, the test was applied to forty-six patients suffering from various clinical conditions other than the typhoids. Forty-three yielded the anticipated negative reaction, averaging in cardiac acceleration 21.5 beats per minute. Three gave positive reactions without any probability of enteric infection. Mason concludes that in the diagnosis of fevers of the typhoid group, the atropin test is of distinct value and in many cases affords diagnostic data prior to a positive Widal reaction.

2. Mason, E. H.: The Value of the Atropin Test in the Diagnosis of Typhoid Fever, Arch. Int. Med., January, 1918, p. 1.

TECHNICAL DATA FROM THE PRESENT INVESTIGATION

Early in our series of tests it was obvious that our results would be at variance to the foregoing, for which reason it was deemed desirable that our technic should conform in as many respects as possible to the previous work. This necessitated the discarding from our series the results from fifty-eight cases in which technical innovations had been introduced. In the remaining 170 cases, 198 tests have been carried out with rigid adherence to the Marris technic. The patients on whom these tests have been made were all men, predominantly of the third decade. All had received typhoid-paratyphoid prophylaxis. These men were patients suffering from the diverse conditions given in the accompanying table. In one group of 170 cases, 108 (63.6 per cent.) were sensitive to atropin (atropin negative test), while sixty-two (36.4 per cent.) were nonsensitive to atropin, giving the reaction described as typical for typhoid infections. Neither the positive nor the negative atropin tests were sharply associated with any particular conditions. It may be observed in the table that in the various listed processes, the positive and the negative are almost uniformly distributed in the ratios noted above. Charts 1 and 2 are records of the occurrence of distinct positive and negative atropin tests, respectively, obtained in two measles cases similar in clinical characteristics. Charts 3 and 4 likewise were obtained, respectively, in two cases of lobar pneumonia of approximately the same degree of severity and at about the same stage of the process.

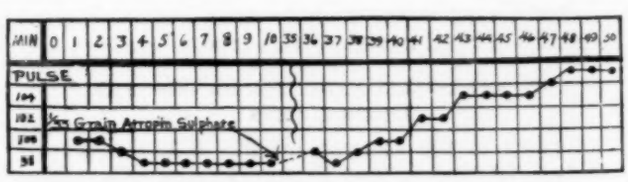

Chart 3.—Typical positive atropin reaction in pneumonia patient whose clinical condition was the same as that of the patient in Chart 4. Broken line, interval of twenty-five minutes.

On two successive days the atropin test was made on twenty-seven patients thus distributed: influenza, 11; pleurisy, 3; pneumonia (lobar), 2; pneumonia (bronchial), 1; bronchitis, acute, 4; tonsillitis, 5; ethmoiditis, 1. It was observed that of the total number, fifteen patients were atropin sensitive on both days, four were atropin nonsensitive on both days, and eight were within the limits of atropin positive on one

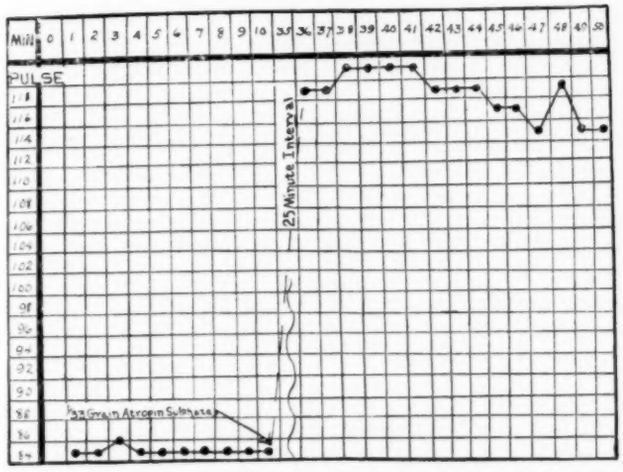

Chart 4.—Typical negative atropin reaction in pneumonia patient whose clinical condition was the same as that of the patient in Chart 3.

day and atropin negative the other day. The last named group of eight may not be cited as evidence of shifting from an atropin sensitive to an atropin nonsensitive state, for the pulse rate changes were such as to fall in one day's test just above or just below the arbitrarily chosen line of demarcation, and on the following day to fall on the opposite side of the line without there having occurred an actual pulse rate variation of more than six or eight beats. Apart from these borderline cases, the results obtained on the two successive days were closely alike, as shown in the plotted results in one case (Chart 5).

In none of the sixty-two cases giving rise to results that under the provisions of the test would be interpreted as typhoid infections were there evidenced any clinical or laboratory findings that might remotely be attributed to typhoid or paratyphoid fever.

RESULTS OF TESTS

Diagnosis	Total Number of Cases	Number Sensitive to Atropin, Negative	Number Nonsensitive to Atropin, Positive
Measles	39	17	22
Scarlet fever	18	6	12
Influenza	23	19	4
Tonsillitis	8	5	3
Laryngitis	1	1	0
Pharyngitis	2	2	0
Bronchitis	6	5	1
Pneumonia	22	13	9
Pleurisy	3	2	1
Bronchopneumonia	11	9	2
Mumps	1	1	0
Mumps-measles	2	2	0
Meningitis carrier	9	6	3
Diphtheria carrier	5	4	1
Diphtheria	1	1	0
Ethmoiditis	2	2	0
Neuritis	1	1	0
Adenitis	3	2	1
Gastric ulcer	1	0	1
Intestinal stasis	1	0	1
Hyperchlorhydria	2	1	1
Arthritis, chronic	2	2	0
Tuberculosis, pulmonary	1	1	0
Jaundice, catarrhal	2	2	0
Tapeworm	1	1	0
Heart block	1	1	0
Hyperthyroidism	1	1	0
Secondary anemia	1	1	0
Total	170	108	62

COMMENT

The conception of a specificity of antagonism of action between atropin and typhotoxins is in no way borne out by the results of our investigation. The occurrence of 36.4 per cent. positive atropin reactions in a series of 170 nontyphoid cases removes from this test all but the most casual significance as a diagnostic procedure. The factors that determine the degree of response of the heart to atropin action are fundamentally the outgrowth of variations in the equilibration of the vegetative nervous system. This lack of sensitiveness to atropin is not peculiar to typhoid infections, but is detectable in many diseases and, in fact, may frequently be elicited in normal individuals as a mark of vegetative nervous system instability.

Not only in other conditions than typhoid is this insensitiveness to atropin encountered; but also in typhoid infections marked cardiac acceleration may be observed, according to Matsuo and Murakami,[3] who say: "In our forty-six cases of typhoid fever (including seven cases of paratyphoid B), atropin was quite active, accelerating the rate of pulse, especially in cases of bradycardia. As all our cases were serologically and bacteriologically controlled, the diagnosis was undoubtedly correct." It is noteworthy that such typhoid patients as exhibited a bradycardia exhibited cardiac acceleration after atropin, while the patients presenting a relative tachycardia were for the most part unaffected by atropin. In the series cited by Matsuo and Murakami, all the fatalities occurred among the number giving positive atropin reactions. This observation is in keeping with the well established fact that a tachycardia in typhoid bespeaks a pessimistic prognosis. The atropin reaction for this reason may attain to definite prognostic value.

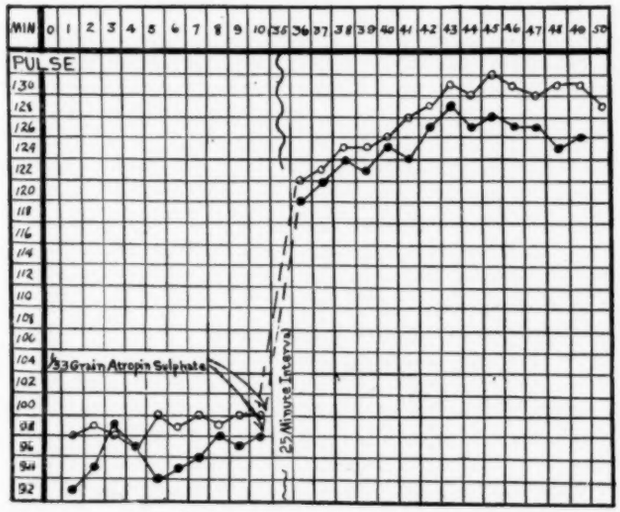

Chart 5.—Conformity of results of two negative atropin reactions made on successive days in a patient convalescing from lobar pneumonia.

SUMMARY

A series of 170 nontyphoid patients has been tested with the atropin reaction in the manner described as

3. Matsuo, Iwao, and Murakami, Junichi: Pharmacodynamic Examination of the Vegetative Nervous System in Typhoid Fever, Arch. Int. Med., March, 1918, p. 399.

reliable for establishing the presence or absence of typhoid or paratyphoid infections. Thirty-six per cent. of the number examined yielded results characteristic of typhoid. Those cases giving reactions typical of typhoid without any evidence of typhoid existence were distributed over thirteen diseases. It is concluded from so high a percentage of discrepancies that the atropin reaction is without especial value in the detection of typhoid infection.

NURSES AND THE WAR*

PHILIP KING BROWN, M.D.
SAN FRANCISCO

Our advent into the war has shown us unprepared in trained woman power as well as man power, and we are confronted with a need of 30,000 more nurses this year in addition to the 7,000 already enrolled. This means probably one half of the available registered nurses in the United States, and it is safe to say that if the war lasts two years more both the Army and the civil population will suffer immeasurably from the shortage. The fact that France long ago took women for nurses' work who had never had a particle of training marks what must happen to us if some more far reaching plan to meet the demand be not put into operation at once. It is well enough to say that the third year nurses can be taken from the training schools, or that married nurses might be drafted and sent to cantonment hospitals, thus releasing a few thousand graduates for more active duty here or abroad. That is a makeshift and not a solution to the problem.

The Army, on which falls the burden of war, has had to change suddenly all its standards and meet the emergency by making several thousand officers out of a picked number of civilians after an intensive training of three months, supplemented with field work and practice service in cantonments during periods of from three to nine months more. Does any one doubt that these men will make valuable officers, or question the expediency of the new order of education and training? Is it not equally plain that the shortage in nurses should be met in somewhat the same way? It would certainly be better to have an adequate supply of fairly trained nurses than to have to fall back on those who are willing to serve, but who have had no training.

In connection with the subject of the intensive training of nurses, it seems pertinent to raise at this time a few questions about the whole nursing situation. As a profession, nursing has increased with rapid strides in popularity. Better hospitals and more of them have increased the number of permanent positions to be filled, as well as the demand for more pupil nurses. The growth in number of apartment houses drives the ill to hospitals for care, and the expense of good care at home is making the hospital better known and a more and more necessary institution. New nurses from first class schools are not now graduated fast enough to meet easily the growing demand, and second and third rate schools have to be tolerated in many communities. Then, too, in addition to the work for permanent nurses in hospitals, marriage removes them rapidly from the profession. There is also a growing demand for nurses in physicians' offices, in the emergency hospitals, and welfare departments of large factories and stores, and in public health fields, where they may have the problems of tuberculosis, sanitation, contagious diseases, child labor and the disorders of childhood to deal with, so that a good many of the best nurses never actually practice their profession as private nurses. It is unfortunately too true that there is today no adequate training in many of the fields of special work, and most of the best nurses get their training for the field they finally enter, after they graduate from the training schools. Scarcely a school in the United States in its course for nurses gives training in the understanding and care of mental or tuberculous patients, in public health, or in the consideration of the social, economic and community problems of disease, as they can be studied in a clinic where adequate social service work is carried on, and only a few have anything like adequate service in contagious diseases. Indeed, the training generally in any hospitals that have not large wards is apt to be utterly inadequate, since most patients occupying private rooms have their private nurses, who are a decided menace to the educational opportunities of the pupil nurse.

PRESENT SYSTEM OF TRAINING

A review[1] of the practical educational opportunities offered to nurses in California hospitals (Table 1) will illustrate the decidedly limited scope of the present training, as compared to the whole field of nursing, which must in some way be covered. Reference to the absence of opportunity of studying occupational disease is made because there is no other way a public health nurse may become familiar with conditions we are trying to eliminate than by observing these end-results as they are uncovered in clinics and hospitals.

TABLE 1.—EDUCATIONAL OPPORTUNITIES FOR NURSES IN CALIFORNIA HOSPITALS

Out of 72 schools of nursing, 69 of which are accredited, practical nursing of medical and surgical cases is taught in all.		
Obstetrics in	67,	
Nursing of children's diseases in	63,	
Nursing of contagious diseases in	14,	6 of them county hospitals 2 prescribe the course but have no contagious service 1 offers it as an elective, but has no contagious service
Nursing of tuberculous patients in	13,	8 of which are county hospitals
Nursing of mental cases in	4,	in one of which it is an elective
Clinic work is prescribed in	27,	6 of them county hospitals 4 with no clinic service 2 with less than 50 beds 1 elective but no clinic service
Social service in	1	elective
Massage and physical exercise in	0	
Hydrotherapy in	3	
Practical dietetics in	0	
Practical public health in	1	elective
Electives in	9	including 3 months' service in hospital administration, as office assistant, in operating room, children's and contagious diseases, private room service and the public health and social service already enumerated
Occupational diseases in	0	
Work treatment (ergotherapy) in	0	

It is quite evident from this review that there is a grave defect in scope of training in the vast majority of schools in California, and as a matter of fact it is as bad in almost every school in the country. It is sad, indeed, to think that public health and preventive medicine have called forth so meager an opportunity for nurses in the educational world. One seventh of the people in our country die of tuberculosis, and yet special training in the care of these poor unfortunates is denied 90 per cent. of the graduate nurses. The care

* Read in the Public Health Section of the California Association of Social Agencies, Santa Barbara, April 16, 1918.

1. The data are gathered from the Survey of Schools of Nursing, a report published in 1917 by the California State Board of Health.

given in mental cases is a still sadder picture. Any one strong enough and as a general rule indifferent enough to the subtle conditions of the human mind seems good enough for the insane, who of all patients need the care and consideration of the finest type of trained and intelligent nurses. Without going further into the entire absence of any training in practical psychology, which is absolutely necessary in a nurse handling nervous and mental patients, and of infinite value to every nurse, it is sufficient to add the statement, made earlier, that most nurses get the training in the specialties, which so many of the best ones enter through force of circumstances or finally follow through preference, after they leave the hospital training schools and too often outside its walls. In a large proportion of these specialties the original training as a nurse, valuable as it is, counts for far less than would justify the three years spent in getting it, plus the uncertain methods of supplementing their fields of vision and operation through the chances opened to them in private work. Indeed, the best workers known to the writer in the fields of public health, mental hygiene, tuberculosis problems and social service are not nurses.

It is particularly noticeable to the close observer in most hospitals that nurses prefer surgical to medical work, and for the reason largely that the battle is short and sharp, full of excitement and interest for a few days, and then the rewards of victory, or the satisfaction of the fight well made and a defeat softened by the consciousness of the greater loss to the family and the need of administering comfort and help to them. There are, of course, plenty of nurses who prefer the surgery because it is easier and the strain apt to be shorter. It offers more variety of a kind easily comprehended because of its mechanical aspect. There is also an undue importance, financial and otherwise, attached to surgery. It is true also that the nurse actually understands the surgical process better than she does the medical, and her interest is correspondingly greater. She administers her drugs largely by hypodermic for definite results. Not so with the medical nurse, whose record of a case shows the administration of a teaspoonful of Prescription 91264 every fourth hour, and a tablet of Prescription 26182 after meals. What she gives and why, she does not know in most cases, and is not supposed to ask.

The first objection, then, to the present system is that it is not well balanced, or is wholly inadequate in many departments in most hospitals, is too apt to be largely surgical, and fails to cover a number of important medical conditions in which special training is necessary.

The second objection is that training schools undertake too much academic work which is out of their line and for the teaching of which they are wholly unfitted. Chemistry, bacteriology, anatomy and physiology, taught from the textbooks, merely represent time wasted; and the danger of the little badly oriented knowledge so gained is extreme. Are any of them really necessary? Frankly no, unless it be anatomy, although young women wishing to specialize in surgery or as laboratory technicians must have a thorough ground work of laboratory training in all four. Some pathology, not taught in any training school that I know, would be an invaluable aid to nurses in understanding disease, if they could have a preliminary course in gross anatomy. The chief point of it all is that except in the necropsy room nurses cannot be taught properly to appreciate disease that they are so vitally interested in combating, and the sight of a nurse at a necropsy is a thing I have rarely seen. Why not figure on an entrance requirement for hospital training schools of all these subjects? Let them be given in a three month period in a medical school, if it is thought best to make them requirements, or let them be left out altogether.

I have considered thus far the subjects that are not taught, though they ought to be, in a well balanced school and the subjects that are badly taught and perhaps ought not to be attempted at all. What can be said of the rest of a nurse's education? First of all, it is an education gained largely by practical experience, during which far too prolonged period the gaps are enormous and are filled in by requiring of nurses much in the way of service that could better be done by maids. A girl is poor material if she has not an idea of cleanliness and order when she enters a training school, and she ought to know how to take care of and pick up a room; indeed, she should know something of the preparation of food before she enters. Given such an equipment, and there remains for the training school to build on this foundation an understanding of how to handle the sick and suffering, administer and apply remedies, including dressings, observe surgical cleanliness, tend to the turning and shifting of the patient, handle the functions of excretions skilfully and tactfully, bathe the patient, make and chart the observations called for, and follow the physician's instructions. Six months of this sort of work critically supervised should make most young women thoroughly fitted to continue it unaided. Three months more might be spent in the operating room, where a thorough training in surgical technic could be obtained, and finally, three months as an elective in that particular line of nursing that the young woman wishes to follow after graduation. These three month periods, for those who do not care to elect Army work, might be continued in the study of elective specialties beyond the one required, enabling the nurse to qualify for several kinds of work so that her field might have more variety. Among these specialties are obstetrics, children's diseases, contagious diseases, tuberculosis, mental disease, medical social service, public health, and in the present emergency, Army hospital work. It is plain that the nurses who go into Army work must have a considerable amount of special training even after three years of hospital, and often many more in private work, because the whole range of Army work is so standardized and at times necessarily is carried on at immeasurable disadvantage. If all pupil nurses of one and a half or two years' training could enter at once cantonment hospitals for three months' training, it would release several thousand nurses for overseas work, and the Army hospitals could be turning out a stream of young women trained for their work. At any time she should be able to reenter any good school for a three month period and get exactly what she has found she most needs, or what would be most useful to her.

It is not my intention to dwell in detail on the many abuses of the present system, but it seems only fair to mention here the lack of reciprocity and coordination among training schools, such as exists among all other educational institutions. A girl may spend two and one-half years satisfactorily in a first class school in one part of the country and of necessity have to leave

and perhaps change her place of residence. The principle of crediting her with work done toward her graduation certificate is not an established one anywhere, except that the smaller low grade schools sometimes take such girls and allow them certain time. The system is absolutely unjust, and with the proper standardization of teaching it should be changed.

COST OF INSTRUCTION

This brings up the consideration of the question of whether pupil nurses ought not to pay for their instruction instead of being paid for their services while being taught principles and acquiring practice in nursing. Out of the present system have grown abuses on both sides, the long and irregular hours, unsystematic work, unwillingness of schools to recognize and accredit the work done by nurses in other schools, poor teaching of many of the schools, and inadequate training of most of them in spite of the three year periods. On the other side the hospital schools have had to submit to the regulation of an eight hour day, forty-eight hours a week, which from the patient's point of view makes good nursing impossible except in wards. They have had to pay the pupils small salaries, board and feed them, care for them when ill, and furnish in many cases uniforms, laundry and books, not one of which items is a just charge on the hospital, and ultimately on the ill. In the early days of training nurses these things may have been necessary inducements to young women; but they are not necessary today, and the tendency to drop them one by one in the best schools needs encouragement.

Indeed, if a program of intensive training could go through, and nursing as a profession could be put on a proper educational basis, there seems no reason why the nurses should not pay the usual fees for that sort of instruction. Taking the fees charged by schools of civics, applied social science and philanthropy, and the colleges that give such courses the average fees per year amount to from $125 to $150. Western Reserve University, which devotes one year to its public health course, charges $125 for that alone.

A word more should be said about the advantage of an educational standard for a nurse's training in place of the present too largely time standard. There should be no excuse for graduating a girl in one or even three years if her fitness to continue unsupervised is not evidenced by tests of high standard. Finally, there must always be an opportunity for nurses to fit themselves thoroughly in every department of the work and in hospital administration as well as the executive work of supervising the training schools, and the art of teaching. Instead of the passing on of information method too much in vogue now in most schools, the teaching and supervision of pupils must be done by trained teachers. This is a further reason for the charging of adequate fees for the training.

At this time let us look into the relative cost in time and money of nurses' training and that of other professions open to women. Teaching is the largest field, and here we have the alternative of a five year course in the state university leading to a high school certificate, and a two year course in a state normal school leading to a primary and grammar school certificate. The entrance requirements in the two professions are practically the same. The tuition in both cases is free. Board in university and normal school towns will average about $40 a month for the nine months' work. Books, clothing and laundry are extras not demanded of the nurse, for in many schools uniforms, books and laundry are furnished; but these items amount to a good deal for the college or normal school student. Let us put the difference down at the nominal sum of $100 a year. The nurse has four weeks of vacation in her three year course, the embryo teacher from sixteen to sixty weeks, during which time the cost of living is obviously greater for the student. Pupil nurses are paid small sums in most training schools, more recently in proportion to the poorness of the training and consequent difficulty in obtaining pupils. Many good schools no longer pay these salaries, or furnish books or uniforms; but all schools of nursing still provide room and board and more or less absolute boarding school supervision over their pupils. Here enters in one of the most disturbing psychologic problems in connection with nursing. Why should the normal school or college young woman be turned loose in the community to find pretty much her own environment, for which she must pay $40 more or less a month, and the nurse be boarded and held prisoner, except on the occasion of her having time off once a week when she is privileged to go away unaccounted for, for a number of hours. Time was when a nurse did day or night duty or both according to the demands of the work, and she was conveniently housed in order to be on call at any time. This condition of affairs no longer holds in any but very small hospitals, and the need for nurses being boarded and cared for by hospitals does not exist, any more than it does in any other school for advanced training or professional education. The morale of nurses would doubtless improve to a still higher standard if they were treated by hospital authorities in

TABLE 2.—COST OF EDUCATION TO YOUNG WOMEN, AND THEIR EARNING CAPACITY

	Nurses	Public School Teachers	Social Workers	Private Secretaries	Bookkeeping and Stenography	Full Commercial Course
Length of training	3 years	2-5 years	6 mo.-2 years	8 months	6 mo.	12-15 mo.
Tuition (total)	0	0	0-$250	$115	$85	$150
Board and room per month	0	$25-$40	$25-$40	$25-$40	$25-$40	$25-$40
Books, laundry, clothes, etc., per month	$5	$10	$10	$10	$10	$25
Earning capacity at graduation and later, per month	$130-$150	$70-$105	$75-$250	$75-$150	$35-$175	$35-$175
Cost of living after graduation, per month	$20-$40	$40-$60	$40-$60	$40-$60	$35-$60	$35-$60
Institutional work: earnings per month	$60-$100, including board and laundry					
Public Health work: earnings per month	$75-$100, without board					

accordance with the established precedent in colleges. Under the present system, nurses are too apt to react immoderately to the small measure of freedom allowed them. We trust them with the very lives of patients, and yet we treat them far too much as if they could not be trusted. There is no reason whatever for hospitals to board pupil nurses; and a huge administrative responsibility, as well as financial burden, will be spared hospitals when this outgrown tradition is set aside, and training schools for nurses are conducted as are technical, normal and vocational schools and colleges.

The cost of education of young women in time and money for the positions of private secretary, bookkeeper, stenographer, social service worker, and the average earning capacity, with possibility of advancement, is shown in Table 2, to which are added the same data regarding public school teachers and nurses.

One cannot but view with distress the situation that holds with public school teachers whose $70 a month at graduation is increased slowly to $105, as a maximum, at the end of eight years. In any survey of the efficiency of our public school situation, one must feel that, considering the time and cost of preparation, the remuneration and the responsibility, it is remarkable how many fine women take up the profession. The long period of vacation, the very limited hours of work each day, the Saturdays and Sundays free, are all favorable conditions; but the nurse has in one sense even greater freedom, vastly more geographic range, wider interests, and a smaller living expense. It is argued by many that the nurses' fees are too high and prohibitively so to the small salaried person. This may be true, and it is possible that the growth in the use of hospitals is dependent on this fact. Even the expense of hospital care is high for the majority, and the health insurance program is the answer offered to this criticism by those who would make generally better care available for every one.

The fact remains that not alone because of war is there a growing demand for nurses, but also in constantly widening fields of public health and preventive medicine, besides the ever present care of the sick and injured. This situation is not being met by training schools, for the field of training in hospital schools is a limited one; nor has any plan yet been seriously considered for meeting it. Such movements as cutting down the hospital training by a year to college graduates who have covered certain courses, as has been adopted by Stanford University and the University of California, the opening, to the same end, of a three months' summer training course at Vassar for preliminary work in anatomy, physiology, pathology, bacteriology, applied chemistry, nutrition and dietetics, household management and hospital economics, are enormous strides in the right direction, but wholly inadequate to the solution of the problem.

Miss Delano,[2] director of the department of nursing of the American Red Cross, has called attention to the fact that special courses of from four to eight months' duration in practical training in public health nursing are now offered in several centers to nurses otherwise qualified who wish to enter the town and country service. The visiting nurse associations in several large cities give field training to such students. Regular eight months' courses are given by Simmons College, Boston, Teachers College of Columbia University in conjunction with Henry Street Settlement, New York, Western Reserve University, Cleveland, and by institutions in several other cities. This only emphasizes the facts already called attention to, that specialties in nursing are best prepared for after graduation, and the three year preparation for them is unwarrantedly long, if not almost wholly unnecessary in many cases.

2. Delano: The Women's Great Profession of the Future, Jour. Assn. of Collegiate Alumnae, March, 1918.

SUMMARY

1. The 7,000 already enlisted Red Cross nurses have created a noticeable shortage, although they constitute only 6 to 8 per cent. of the supposed total of from 80,000 to 90,000 registered nurses.

2. The need expressed by General Gorgas[3] for 5,000 nurses within two and a half months and a balance of 35,000 within the year cannot be met by volunteers, and it is doubtful if it could be dealt with by conscription in fairness to the community and the nurses themselves.

3. No plan for an adequate supply of nurses has been seriously advocated, although the curtailing of the three year course for certain well educated women, and the provision of special preliminary training enabling others who take it to cut down the three years, are steps in the right direction.

4. The time for a complete change in the nursing situation is at hand, and the change should be made along the lines of (*a*) more fitting preliminary training in subjects that hospitals cannot teach to advantage; (*b*) the cutting of the course in hospitals down to four terms of three months each, for which the young women pay, and during which time they receive more personal supervision from trained teachers, and (*c*) the abolishing of the boarding of nurses in the interests of getting a better class of women, and lessening the expense of operating hospitals.

3. Gorgas, W. C.: Red Cross Bull., March, 1918.

Health Hazards in the Stone-Cutting Industry.—In *Public Health Reports*, March 22, 1917, Dr. J. P. Leake, passed assistant surgeon, and Dr. D. L. Edsall, consultant in industrial hygiene, U. S. Public Health Service, report on their investigation of the extensive quarrying and stone-cutting industry at Bedford, Ind., relative to the extent to which it affects the health of the workers. The chief attention was given to tuberculosis and the effect on the nervous system of stone cutting, which is done chiefly by compressed air tools. Conditions surrounding the industry were found to be good, the cutting sheds being well constructed and lighted, and conditions for eliminating dust being admirable. Some of the work is done under water spray and some of it dry. The inhalation of dust was found not to be excessive, and the tuberculosis rate in the community among women equaled that among the men; therefore dust was not an important factor in the promotion of this disease. The cutters are men of a superior class, make good wages, work short hours and live well, many in their own homes. The pulmonary hazard is said to be less than in the stone industry in general. In some mills sanitary conveniences and guards against the spread of intestinal infection are satisfactory, but in others improvements should be made. In the hands of stone cutters who use pneumatic hammers, a hypertonicity of the blood vessels was found, appearing as an exaggerated reaction to low temperatures. This is not serious as to life or function, but is uncomfortable and can be overcome to an extent by proper management. Some apprehension exists among some cutters as to the ultimate effects, but Dr. Edsall believes they will not be permanent. The trouble affects chiefly the ulnar side of the hand holding the vibrating hammer, and is avoided by the more skilful operators.

ATONIC DYSPEPSIA

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Of all the diseases of the digestive system, the diagnosis and treatment of the so-called functional disturbances are the most unsatisfactory. This is true from the standpoint of both physician and patient. To the physician they present a clinical picture of such complex composition and vague outlines that diagnosis requires unusual care and study. To the patient the variable course and prolonged duration are exhausting, both financially and physically.

Recent accurate work in diagnosis and treatment of the organic diseases of the stomach has been so fruitful that attention has been focused on that class of diseases to the relative neglect of the equally important functional disturbances. The neglect of the functional diseases by both physician and patient is due to the fact that life is rarely threatened, and acute symptoms are not common; but the importance of such diseases is nevertheless great, because of the prolonged impairment of the patient's social and industrial efficiency.

Physicians of the greatest experience repeatedly state that the more common disorders of digestion are functional in character, and of these the most important is the motor disturbance atonic dyspepsia (gastric atony, the anemic-gastroptotic dyspepsia of Cohnheim, and motor insufficiency of first grade of Boas). Which of the foregoing synonyms is most applicable we need not attempt to decide, provided that when we use our chosen term we have a clear understanding of the clinical entity it serves to designate. Briefly, this is an impairment of gastric tonus and motility, without organic obstruction. There is impairment in motility and delay in emptying, but complete emptying nevertheless occurs. Atony is to be definitely distinguished from motor insufficiency of second grade, in which food remains are still found in the stomach twelve or more hours after a test dinner.

Some writers further divide motor insufficiency of the first grade into (1) atony, in which the stomach does not contract tightly around its contents, and through the weight of normal amount of food becomes temporarily dilated although emptying in normal time (impairment of peristole), and (2) impairment in peristalsis with delayed emptying, though no twelve-hour stagnation or permanent dilation is found. Such writers hold that impairment of peristole (tonus) may exist alone, but is usually associated with some degree of impairment in peristalsis and actual delay in emptying.

Whether atony should be separated from gastroptosis is well discussed by Cheney, who says:

> The greatest difficulty in diagnosis lies in separating these cases from gastroptosis; for neurasthenic symptoms are common to both conditions; and in so-called atony cases, the weak walls permit the greater curvature to sag below normal limits after inflation by carbon dioxid or after the barium meal for roentgenographic examination. There really seems good reason, therefore, to suspect that the cases we class as atony are in fact minor grades of gastric prolapse, and the neurasthenia is a consequence and not a cause.

In my opinion, if it is borne in mind that the essential feature of disease under discussion is impairment of motor function and tonus, without organic obstruction, the position of the stomach becomes a matter of secondary importance and need only be considered as one of the stigmata of inborn universal congenital asthenia on the basis of which atonic dyspepsia develops, when one or more of the exciting causes are added. Some discussion of these predisposing and exciting factors in the production of atonic dyspepsia is necessary, for if the treatment is to result in any measure of success it must be based on an intelligent effort to eradicate the acquired exciting factors and an adaptation on the part of the patient to those inborn predisposing conditions which cannot be removed.

All the predisposing causes may be summed up under the term "universal congenital asthenia," or the habitus of Stiller, sometimes also known as the habitus of Botticelli, on account of the resemblance to the physique portrayed in the pictures of that artist. The physique is slender and spare. The thorax especially presents characteristic features. The Lenhoff index (that is, the distance from the episternal notch to the symphysis pubis, multiplied by 100, divided by the minimal circumference of the abdomen) is over 80, the costal angle is acute, the tenth ribs often unattached at their costal ends, and the right kidney or both kidneys palpable or movable to a varying degree, with more or less ptosis of all abdominal viscera. The abdominal wall is thin and the muscles relaxed, and a splashing sound is easily elicited. The heart is small and vertically placed, the blood pressure is usually low, the pulse is slow, and the hands and feet are cold.

SYMPTOMS

Temperamentally these patients have characteristics almost as marked and definite as their physical features. They are sensitive, react excessively to normal stimuli, but react inadequately, undertaking more than they can perform, working hard as long as strength lasts, and then, desire having outrun accomplishment, they collapse with some functional digestive disturbance and much mental depression.

With the above-mentioned mental and physical characteristics, the individual may have nothing more serious than occasional complaints of a "weak stomach" till some additional stress is added, which plays the rôle of an exciting cause. This is often some illness such as typhoid fever, influenza, or, in women, a pregnancy or miscarriage. Atonic dyspepsia in its most marked form is especially apt to occur in young adults about the time when they meet the stress of life for the first time, as is seen in young men who work their way through the university or in women who work and also nurse some dependent sick relative. Mental and emotional stress, especially if of a depressing type, is an important exciting cause, as is shown by onset of marked symptoms following some shock, material worries, unhappy love affair, or conjugal infelicity.

The subjective symptoms are so characteristic that a diagnosis can often be made without special examination. A most complete and careful examination should never be omitted, however, for although the dyspeptic symptoms may dominate the clinical field, other conditions, such as incipient pulmonary tuberculosis, chronic appendicitis, or other focal infection, may be present and should of course receive weighty consideration when the treatment is directed.

The most common symptoms complained of are a feeling of weight, discomfort, fulness or pressure, occurring either while eating or soon afterward, the patients often complaining that they feel too full even before they have satisfied hunger, and that the sensa-

tion is present even after soup, milk or a cup of tea and toast. Nausea, sour eructations, dizziness and headache occur, and there is often complaint that food is tasted long after it is eaten. The last-mentioned symptom leads the patient to think that certain foods disagree, with the result that first one article and then another is omitted until the diet is entirely inadequate and malnutrition develops with the establishment of a vicious cycle. Digestants, sedatives and analgesics fail to give relief, unless one of them contains some ingredient that will produce belching, which nearly always affords some temporary relief, The patients complain of a feeling of general weakness, fatigue and lassitude of the body, with mental torpor and inability to concentrate the attention on work, especially for two hours after meals. Actual pain and vomiting very rarely occur in uncomplicated atony. The appetite is quite variable, both with regard to the quality and the quantity of food desired, and the ability to take certain foods varies from day to day. That is, a meal of certain composition can be taken and digested without discomfort on one day, and a few days later the same food will cause marked discomfort. Constipation is common but not constant. After a test breakfast the amount withdrawn is often increased above normal, and after a test dinner there is more definite evidence of impaired motility. In well established cases, food remains are found seven hours after the meal, but the stomach is found empty twelve hours after eating. The acidity is normal or varies only very slightly above or below normal. Blood and other abnormal constituents are absent.

On roentgenographic examination, the stomach is found to be of the fish-hook type, and the gas bubble is large. When examined with the fluoroscope, the barium mixture, without the usual preliminary hindrance to filling in the upper part of the stomach, sinks rapidly to the caudal part, while the pars media remains empty and collapsed. After 1 or 2 ounces of the mixture are taken, the patients often complain of fulness, saying that they cannot swallow any more as the stomach is already full. Peristole, or the ability of the stomach to contract tightly about its contents, is impaired, as shown by a large gas bubble, and peristaltic action is sluggish. The stomach is nearly always ptosed to a varying degree, but it is a noteworthy fact that neither the impairment of motility nor the subjective symptoms are always proportionate to the degree of ptosis. Position is not a measure of function.

There is little difficulty in recognizing atonic dyspepsia if the history is taken carefully and the symptoms studied intelligently. The false diagnosis of gastritis is the error most frequently made, though it has also been treated as gastric ulcer with the result of producing increased debility instead of improvement. The most serious error that can be made is to overlook some underlying disease such as chlorosis, nephritis or early pulmonary tuberculosis.

The course of the disease is variable from week to week, with a tendency to become progressively worse. Physical fatigue and mental stress increase the severity of the symptoms, while rest and relaxation produce some amelioration. Under the most favorable conditions the disease is essentially chronic.

TREATMENT

The chief difficulty encountered in the treatment of these patients is not found in the disease itself so much as in depressing economical or social relations, which often exert such a definite influence as to merit the title of exciting cause. The problem presented, therefore, is essentially one of adaptation. The physician has the general task of effecting an adequate adjustment between a subnormal individual and the environment.

A special feature of this task is the improvement of nutrition. When it is noted that it is an organ of nutrition that is especially impaired in its function, the difficulties may be realized. Two different methods are employed in treatment. One is the well known rest cure, which consists in changing the whole environment of the patient for the better. All of the exciting and aggravating causes mentioned above are removed by placing the patient at rest in bed in a hospital, or preferably a quiet sanatorium. Not only are friends, relatives and business associates excluded, but even letters and newspapers are forbidden. Contact with the old environment having been thus effectually broken, the patient is fed all of the most nourishing food that can be digested, and an effort is continually made to increase the capacity for assimilation. All hygienic measures that may be of aid are employed. Massage, baths and later moderate exercise, are directed according to the needs of the special case. Finally, and perhaps most important, must be mentioned a skilled and tactful nurse who will not only attend to the actual needs of the patient, but will divert the attention of the introspective patient from within to outward things.

This method, which has been barely outlined above, is usually highly successful — the results are striking, it is a brilliant conquest — that is, till the patient resumes the old life. Then the real test occurs; for if the patient is to take any part in the world, adaptation must take place; not all the handicaps can be removed. Excellent as this method is, it should be reserved for the most severe cases, or those complicated by some other disease. For, although it is so pleasing to physician, patients and friends to see such marked improvement in a short space of time, unless great care is exercised and unless the patient realizes the nature of the problem, all that has been gained while in the sanatorium will be lost in an equally short time, with great disappointment and discouragement to all.

In my opinion the second method, although more difficult for the physician, is to be preferred in all except the most severe and complicated cases, because, although the gain is slow, it is accomplished under working conditions and is therefore more likely to be permanent. In this method of treatment the patient is allowed to continue the normal occupation, business, domestic duties or social activities, but in a slightly modified form. Sufficient time must be allowed for meals, excessively long hours and night work avoided. If possible, an hour of rest should be taken after lunch and a half hour rest before dinner. If the patient is a woman, the household duties may be readjusted and social activities reduced to such an extent as to provide time for one or two periods of rest during the day. It is most important that the meals be taken without hurry and confusion. The excitement, tension and anxiety associated with formal lunches and dinners or with seeing the children off to school, has a most pernicious influence and should be eradicated as far as possible. Dietary errors should be sought for, and when found, corrected. The errors are numerous and peculiar. One patient ate six apples

each night, and another drank milk exclusively. The patients, guided now by the advice of friends or something they have read, now by their subjective sensations, make many experiments, but rarely follow any one course long enough to determine whether it is good or bad. The tendency is toward a diet of soup, milk and broth, and raw eggs. The diet really needed is one of highly nutrient value and little bulk. Since the stomach rebels at a normal amount of food at any one time, the alternative is frequent small meals, with a gradual increase in amount. It is especially important that the lunch be adequate in amount and ample time allowed for eating. Discomfort will be present at first, no matter what food is taken; but with encouragement and intelligent direction, the patient may usually be persuaded to continue to eat adequately, especially if a thorough study of the case has been made before treatment is begun. The forced feeding should be continued despite the discomfort. Only real pain or vomiting should indicate a relaxation and change. The often quoted advice to "take exercise, drink plenty of water, and get the fresh air," is vague, indefinite and often harmful. Since such patients are already below normal weight and find difficulty in taking and assimilating a sufficient amount of food, exercise should be reduced where it is possible, and that taken should be in the form calculated to correct some special weakness or restore normal posture and carriage. When improvement is manifest, exercise may be cautiously increased by allowing participation in exhilarating games and dancing, always stopping short of fatigue and following the exercise with a period of rest.

I lay special stress on exercises associated with mental exhilaration, for the good effect of psychic stimulation on the vegetative system is as potent for good as depression is known to be for harm. In this connection it is often beneficial to explain the condition to the patient. Instead of making them more introspective and "neurasthenic," they are usually pleased by a frank prognosis, and encouraged to learn that there is something they can do personally, and that their intelligent cooperation is of much importance.

An abdominal support is of great value; but in order to be effective it must be carefully and accurately fitted, and the patient must be instructed as to how it is to be applied and what is intended to be accomplished. The fact that such supports do not restore the stomach to what is considered its normal position, as revealed by roentgenoscopy, does not negative their usefulness. The elevation of the stomach as much as an inch often relieves the sensation of weight and discomfort when all other methods have failed. When the nutrition has been improved to such an extent that exercises may be taken, then gymnastics such as already referred to become effective, and the sppport may ultimately be adandoned.

In every case it is necessary to impress on the patient the importance of maintaining the improved condition of health that has been gained. Any unusual physical or mental strain is very apt to induce a return of symptoms, and since the underlying cause is largely inherent in the physical and mental constitution of the patient, continued watchfulness and care are necessary on the part of both the physician and the patient in order that the nutrition may be kept at the highest possible level.

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RENAL INFECTIONS

A CLINICAL AND BACTERIOLOGIC STUDY*

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The whole question of renal infection is complicated by confusing conditions in many phases of the process. The phase, however, that is most complicated and perhaps least understood is that which deals with the routes by which the infecting organisms reach the kidney. Evidence is presented that demonstrates the blood stream as undoubtedly the route of infection in some instances; again there are equally convincing clinical and experimental facts to favor the more or less direct transmission to the kidney through the lymph stream. During the earlier days, it was assumed that all renal infections were ascending directly from the lower urinary tract to the kidney pelvis and parenchyma by way of the lumen of the ureter. This route eventually acquired the disfavor of most of its supporters, who were drawn toward the more attractive hematogenous and lymphogenous theories. For some time the direct ureteral route was considered mechanically impossible excepting in those instances in which there was obstruction to the emptying of the bladder, resulting in dilatation of the ureter and renal pelvis by infected urine. Therefore the solution of this question for a long time centered around the hematogenous and lymphogenous routes, practically all observers agreeing that the clinical and experimental evidence was sufficient to make one suspect one or the other as a possible route in every instance of renal infection. The recent work of David, however, demonstrates that in experimental work renal infection takes place through the lumen of the ureter in most instances, and this in the presence of unobstructed bladders. Just here the confusing condition rests at present, and its solution appears even more remote than ever.

Regardless of the route by which the infection reaches the kidney, there are certain factors within and outside of this organ that predispose it to bacterial invasion. Infection obviously occurs in many previously healthy kidneys; but a kidney already the site of disease, malformation or malposition is known to be relatively more susceptible. Certain diseases more or less constitutional in nature, such as furunculosis, osteomyelitis, teeth and throat infections, and prostate and seminal vesicle infections, as well as gastro-intestinal disturbances, are observed to be closely associated, in many instances, with a homologous infection of one or both kidneys.

While a complete understanding of the factors brought into play in the pathogenesis of renal infection is not possible at present, it is equally impossible in many instances to comprehend the protean nature of its symptomatology. In the usual, typical case there are certain symptoms presented which, to the knowing observer, are logically associated with the pathologic processes as they exist; there are patients,

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however, whose symptomatology is altogether atypical. The patient's condition often goes on and on unrecognized until severe destruction of the kidney has taken place; and often he is subjected to one or more surgical operations, either on a wrong diagnosis or on the operator's guess that the appendix, gallbladder, ovary or other abdominal organ might be the seat of the trouble.

The basis of this report is a study of 116 instances of nontuberculous, nonsurgical, renal infections, with especial regard to symptomatology and bacteriology, together with notes on their treatment.

ETIOLOGY

Thirty-six, or 31 per cent., of these infections were in males, while eighty, or 69 per cent., were in females, and the ages varied from 13 to 57 years. Lesions within and outside of the urinary tract that may have had some etiologic significance are to be seen in Table 1.

Since this table contains only twelve patients with other abnormalities of the urinary tract, and but thirty-six patients with demonstrable conditions outside the urinary tract, sixty-eight patients, or 58 per cent., present themselves with no definite abnormal condition other than the renal infection; however, 24 per cent. of these complained of constipation as a symptom which may rightfully be included as a coincident pathologic condition. Also there are many instances of marked mouth and probably sinus infections in this series that may have a bearing on their coincident renal infection. This factor, however, unfortunately was not investigated in all patients.

TABLE 1.—LESIONS WITHIN AND OUTSIDE THE URINARY TRACT IN INSTANCES OF RENAL INFECTION

Lesions Within Urinary Tract	No. of Cases	Lesions Outside Urinary Tract	No. of Cases
Stricture of urethra	3	Puerperium	12
Floating kidney	2	Pregnancy	5
Complete reduplication of ureter	2	Salpingitis	2
Stricture of ureter	1	Peptic ulcer	2
Renal stone (passed)	1	Organic heart disease	1
Septum of bladder	1	Inguinal hernia	1
Cystocele	1	Alveolar abscess	1
Vesicocervical fistula	1	Cervical adenopathy	1
		Tonsillitis	1
		Pharyngitis	1
		Lacerated cervix	1
		Hemorrhoids	1
		Retroflexion	1
		Spondylitis deformans	1
		Dementia praecox	1
		Undescended testicle	1
		Bronchial asthma	1
		Abdominal tumor	1
		Retroperitoneal abscess	1

SIDE INFECTED

It has been said that all cases of renal infection are bilateral excepting instances of septic infarction and those in which there is a preexisting lesion or anomaly of one kidney rendering it more susceptible. Our findings are not in accord with this statement in that only sixty-eight patients, or 58.7 per cent., had bilateral infections, and forty-eight patients, or 41.3 per cent., had unilateral infections. Of the forty-eight unilateral infections, twenty-three, or 48 per cent., were on the left side, and twenty-five, or 52 per cent., on the right side. These findings agree with practically all other statistics in that the right kidney is somewhat more susceptible to infection than the left, the explanation being given that the right kidney is more mobile than the left, and hence more subject to slight trauma.

SYMPTOMATOLOGY

For brevity the symptoms are tabluated in Table 2.

Three symptoms are seen to be numerically prominent in this table: chills and fever, pain in the back, and frequent painful urination. These symptoms may justly be called the cardinal symptoms of renal infection; there are many patients, however, that complain of none of these symptoms and have an infection not to be distinguished pathologically or bacteriologically from those in the first group; hence a detailed enumeration of these less common symptoms is considered of value. It is pertinent to add that the symptoms tabulated are those volunteered by the patients and not secured by suggestion; hence a symptom such as hematuria means a macroscopic hematuria, as microscopic blood in the urine may be found in a very much higher percentage of patients.

TABLE 2.—ANALYSIS OF SYMPTOMS OF ONE HUNDRED AND SIXTEEN PATIENTS WITH RENAL INFECTION

Frequency			First to Appear			Predominant Symptom		
Symptom	No.	%	Symptom	No.	%	Symptom	No.	%
Chills and fever	56	49	Pain in back	35	30	Pain in back	35	30
Pain in back	52	45	Chills and fever	24	20	Abdominal pain	21	18
Painful frequency of urination	46	40	Painful frequency of urination	18	15	Painful frequency of urination	15	13
Constipation	28	24	Abdominal pain	16	14	Chills and fever	13	11
Headache	27	23	General weakness	14	12	Pain in abdomen and back	8	7
Vomiting	26	22	Pain in abdomen and back	10	8	General weakness	6	5
Pain in abdomen	25	29	Pain over bladder	3	2.5	Hematuria	3	2
Hematuria	14	12	Headache	2	1.5	Pain over bladder	3	2
Loss of weight	13	11	Vomiting	2	1.5	Pain in back and legs	1	0.8
Pain in abdomen and back	11	9	Hematuria	2	1.5	Incontinence of urine	1	0.8
Incontinence	6	5	Incontinence	2	1.5	Constipation	1	0.8
Pain over bladder	5	4	Retention of urine	1	0.8	Pain in neck and legs	1	0.8
Retention of urine	1	0.8	Nocturia	1	0.8			
Pain in neck and legs	1	0.8	Pain in neck and legs	1	0.8			
Pain in back and legs	1	0.8	Pain in back and legs	1	0.8			
Nocturia	1	0.8						

Pain in the back varies in type and severity from a dull, aching pain in one or both lumbar regions to a markedly acute pain and tenderness over the entire lumbar region not accurately localized. These pains sometimes radiate or are referred down to the bony pelvis and in some instances into the thigh, occasionally simulating a ureteral colic which may actually occur from the passage of cell detritus. The more acute of these "back pains" are often associated with even more distressing abdominal pain; or the latter may be the only pain present. It may be a diffuse

pain not especially severe, or have the general aspect of an "acute abdomen." Keen diagnostic judgment is often necessary to rule out the abdominal contents as the cause of these symptoms, and in not a few instances the abdomen is unnecessarily explored.

The temperature produced by these infections is even more variable than the other symptoms; but in a general way it may be said that the more acute and severe the infection, the higher the fever may rise; while the chronic infections seem to produce no fever whatsoever. In practically all instances, the fever is of an intermittent type. Our series contains thirty-five patients, or 30 per cent., with normal temperatures; thirty-one patients, or 29 per cent., with a temperature ranging from 101 F. to normal; twenty-one patients, or 18 per cent., with 103 F. to normal, and twenty patients, or 18 per cent., ranging from 105 F. to normal.

LABORATORY DATA

Blood.—Leukocyte counts of the blood were made at various times during the course of the infection, usually at the time of the first examination. Some of the patients had had symptoms intermittently for ten years, while the more acute infections were seen on the second day. All grades of chronicity and acuteness between these two extremes were observed, the leukocyte counts varying from 40,000 per cubic millimeter in the most acute down to normal counts in the real chronic forms, the average being 14,000 leukocytes per cubic millimeter.

Bladder Urine.—Of the 116 patients studied, 112 showed leukocytes in the centrifuged specimen of urine which was catheterized from the bladder, while four bladder urines were apparently perfectly normal at the time of the examination, although specimens from these bladders might have contained pus the day before or the day following the examination. Such conditions are known to occur, and in practically every instance leukocytes may be found in the bladder specimen if repeated examinations are made in suspected cases. On one negative urine examination a renal infection cannot justly be ruled out.

Cystoscopy.—The ability of the bladder mucosa to protect itself against infection from which it is often in direct contact is very marked, as evidenced by the fact that thirty-nine, or 32 per cent., of these patients had perfectly normal bladders as observed cystoscopically, whereas fifty-nine, or 51 per cent., presented moderate bladder changes, such as hyperemia about the trigon and adjacent mucosa, but usually most marked about the ureteral orifice or orifices from which the septic urine was coming. Nineteen, or 17 per cent., of these patients had marked changes in their vesical mucosa, such as generalized hyperemia, sometimes associated with edema, which is usually localized but may also be more or less generalized. Mucopurulent material clings to the vesical walls, and observation is often difficult, owing to intolerance of the bladder to fluid and inability to get a clear distending medium. Just this type of infection is difficult to distinguish from a tuberculous process, and it usually requires considerable local treatment before the primary cause of the bladder infection can be ascertained.

Bacteriology.—A standard method of culture was used. Five drops of uncentrifuged urine from a ureteral catheter were used to inoculate 10 c.c. tubes of blood agar. Plates were made and incubated at 37 C. for from twenty-four to forty-eight hours. At the end of this time, if a culture was obtained, the various types of colonies were studied by smear and special stain as indicated. Occasionally it was necessary to make subcultures on special mediums before identification of the organism could be made. No attempt was made at this time to separate the colon bacillus group into its various subgroups.

In common with the usual findings in analysis of this sort, there are found to be two organisms which produce most instances of renal infection, namely, the colon bacillus and the staphylococcus. The number of patients suffering from each infection varies somewhat with each series studied and also with the care exercised in handling the material bacteriologically.

Our findings are not at marked variance with those of others, excepting that our percentage of colon bacillus infections is somewhat higher than usually found. Colon bacillus infection was found in 85 per cent. of our patients, 74 per cent. being pure colon infections. The staphylococcus was found in 19 per cent. of the cases, and 9 per cent. of all gave pure cultures of this organism.

TABLE 2.—BACTERIOLOGY OF ONE HUNDRED AND SIXTEEN INSTANCES OF RENAL INFECTION

Micro-organism	Character	Cases		Right Kidney		Left Kidney	
		Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Colon bacillus, pure	Bilateral	54	47.4				
Colon bacillus, pure	Unilateral	35	30	17	14.6	18	15.5
Colon bacillus and staphylococcus	Bilateral	7	6				
Colon bacillus and staphylococcus	Unilateral	4	3.4	2	1.7	2	1.7
Colon bacillus and streptococcus	Unilateral	1	0.86	1	0.86		
Total infections, pure colon bacillus	.....	89	74				
Total infections containing colon bacillus	.....	101	85				
Staphylococcus, pure	Unilateral	3		2	1.7	1	0.86
Staphylococcus, pure	Bilateral	6	5				
Staphylococcus and streptococcus	Unilateral	1	0.86	1	0.86		
Total infections, pure staphylococcus	.....	9	8				
Total infections containing staphylococcus	.....	19	16				
Typhoid bacillus	Unilateral	1	0.86	1	0.86		
Pyocyaneus bacillus	Unilateral	1	0.86	....	....	1	0.86
Diphtheroid bacillus	Unilateral	1	0.86	....	....	1	0.86
Diphtheroid bacillus	Bilateral	1	0.86				
Leptothrix	Unilateral	1	0.86	1	0.86		
Total bilateral infections	.....	68	58.7				
Total unilateral infections	.....	48	41.3	25	21.5	23	19.8

Table 3 presents a complete analysis of the bacteriologic findings. The two patients having definite leptothrix infection were under investigation for genito-urinary tuberculosis, since somewhat acid-fast structures had been found in the bladder urine before the patients were seen by us. We found no tubercle bacilli, but repeated leptothrix cultures were obtained. These organisms resist destaining with acid alcohol in weak concentration or for short exposures. It is easily possible that a wrong diagnosis may be made from this finding.

DIAGNOSIS

A diagnosis may often be made on the symptoms, but an absolute diagnosis can be made only by a microscopic and bacteriologic study of the urine collected from each kidney. In Table 4 are enumerated the different diagnoses under which these patients were admitted to the hospital.

In justice to the examining room physicians responsible for these diagnoses, it should be said that they

are obliged to make hurried and naturally superficial examinations, as a rule, and often are unable to secure a good history; some of the patients, however, are entered with the diagnosis made by a physician who previously had charge of the patient. While this table represents diagnoses made without thorough study, it at least strikingly emphasizes the conditions that renal infections may simulate and from which they must be distinguished.

TREATMENT

Only thirty of the 116 patients studied were treated until completely cured. Our standard for judging a complete cure was not merely a complete relief of symptoms, but two successive negative cultures from five to seven days apart.

The treatment was more or less routine. Those patients suffering from colon bacillus infections were given internally hexamethylenamin in moderate daily

TABLE 4.—DIAGNOSIS MADE IN ONE HUNDRED AND THREE CASES OF RENAL INFECTION

Diagnosis	No. of Times	Diagnosis	No. of Times
Cystitis	12	Pyuria	2
Pyelitis	10	Puerperal sepsis	2
Renal calculus	8	Hysteria	2
Pneumonia	8	Hematuria	2
Salpingitis	7	Fibroids of the uterus	2
Typhoid fever	6	Acute bronchitis	2
Appendicitis	6	Influenza	2
Nephritis	4	Papilloma of the bladder	1
Abdominal tumor	4	Retroflexion	1
Pleurisy	3	Perinephritic abscess	1
Renal tuberculosis	3	Malaria	1
Abortion	3	Postoperative sepsis	1
Lacerated perineum	3	Postoperative adhesions	1
Sciatica	3	Suspected meningitis	1
Cholecystitis	2		

doses for a week, alternating with the administration of alkali for a week. The alkalis were used to the point of securing a distinctly alkaline urine, and for this purpose we used sodium citrate or sodium bicarbonate. In coccus infections, hexamethylenamin was used continuously and prescribed with either acid sodium phosphate or benzoic acid. Regardless of numerous reports to the contrary, there seem to be variable degrees of improvement secured by the proper administration of hexamethylenamin. It is especially noticeable when this drug is alternated with alkalis in colon bacillus infection.

Locally the pelves and calices of the infected kidney or kidneys were treated by irrigation with from 1 to 3 per cent. silver nitrate every fifth day, a culture being taken just before each lavage. The number of irrigations varied from one to twelve to secure the desired results; the majority of patients, however, required from three to five irrigations, 83 per cent. of our cures receiving a number within these limits.

There are very definite reasons for our percentage of cures being relatively so low. Since most of the patients were charity cases in a county institution, the relief of symptoms, to them, is synonymous with a cure, and they therefore discontinue treatment too soon. Some refused further treatment on account of the colicky pains sometimes produced by ureteral catheterization.

The fact that relief of symptoms does not always denote a cure has been demonstrated to us many times by patients who, having left the hospital symptomless but with urines positive for the infecting organism, return within the year following with the same or similar symptoms, and with the bacterial findings found on the first examination. They have had no symptoms from one to several months following their first symptomatic relief. It is logical to assume that during the symptomless period the infection, though still present, was inactive. These patients may justly be considered carriers in the sense that they have infectious foci, potentially dangerous to themselves. In such cases any factor that tends to reduce general or local resistance permits increased bacterial activity manifested by symptoms. It is important, therefore, to insist on treatment until all infection is eradicated. To be practically certain that such a condition is present, we believe that two sterile urines from ureteral catheters one week apart suffice, since there have been no recurrences in the patients so handled thus far, and some have been discharged for over a year. Patients are often examined whose urines are sterile for a period of one week, but yield a positive culture the week following from one or both kidneys. When the urine, however, remains sterile for two successive weeks, the kidneys are likely to be entirely free from bacteria.

The determination of cure in these cases is not altogether unlike that required for the cure of the carrier state in cases of typhoid fever, wherein it is believed that two successive negative cultures from stool and urine is sufficient to indicate that the individual is free from typhoid bacilli. One of the patients of our series had been a urinary typhoid carrier since an attack of typhoid six months before. Her focus was found to be in the pelvis of the right kidney, which disappeared at once with three pelvic irrigations. She had been under observation and medical treatment for six months previously, with no apparent change in her carrier state. She has remained bacilli free for the last four months.

It is a well known fact that passage of a ureteral catheter will in some instances produce a marked alleviation or complete subsidence of symptoms. This observation has influenced some to believe that the entire benefit obtained after pelvic lavage is due to the drainage established by the ureteral catheter. Undoubtedly there are many patients whose symptoms have been produced almost entirely by inflammatory obstruction along the ureter, and it is not unusual under these conditions for the symptoms to be relieved by drainage established by the passage of a ureteral catheter. We cannot conclude, however, that the result is a bacteriologic cure, as numerous occasions have presented themselves to test this point bacteriologically, and invariably the patients relieved by the catheter still have infected urines after a complete disappearance of symptoms. The danger of forcing infectious material into the secreting papillae of the kidney, while anatomically possible under sufficient pressure, is highly improbable when lavage is carefully performed. Therefore it would seem wise to perform lavage on all occasions in which drainage by means of a ureteral catheter is indicated, thereby getting the advantages of both drainage and the beneficial local action of the medicament. Although the medicament does not come in contact with all of the infecting micro-organisms, its action on the inflammatory tissues undoubtedly increases the bactericidal activity of such tissue. The mechanical effect of irrigation may act beneficially in certain instances when suppuration is profuse.

It is now generally agreed that the coccus forms, especially the staphylococcus, have a tendency to infect the parenchymatous rather than the renal pelvic tissue. The infecting cocci and the resultant lesions are therefore usually somewhat distant from the renal pelvis and calices, and anatomically not accessible to renal pelvic medication; on the other hand, the colon group infections being of the pelvis, calices and the immediately adjacent parenchyma, should be the type more suitable for this method of treatment. This bacteriologic and pathologic observation is confirmed by our results in the treatment of these infections. Twenty-seven, or 90 per cent., of all our cures were in infections by the colon bacillus group, and only three, or 10 per cent., were coccus infections. Though many more patients were treated for colon bacillus infection than for coccus infection, the percentage of bacteriologic cures is markedly lower for the coccus infection than the bacillus infection. Five patients with staphylococcus infection were treated for months with the foregoing internal and local treatment, with only temporary or quantitative improvement bacteriologically.

MUMPS MENINGITIS

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The most frequent complication seen in mumps is orchitis. The rarer complications are meningitis, encephalitis, neuritis, ovaritis, endocarditis, arthritis, nephritis, mastitis and vulvovaginitis. The complications appear in most instances in from four to seven days.

The meningitis of mumps is very little known. There is mention of 150 cases, although I have not been able to find more than thirty described, most of them appearing in an article by Acker,[1] in which two of his own cases are reported. During some epidemics, there appear to be more meningeal complications than in others. As most patients recover after a few days' illness, it is very probable that the meningeal condition is lost sight of, particularly in the milder cases. This very likely accounts for the fact that so few cases are on record and that so little is known of this complication.

The pathology, as found in the necropsies compiled by Acker, is that of a serofibrinous meningitis, in some instances invading the brain tissue and the nerves at the base of the brain. The cytologic and chemical tests of the spinal fluid are typical of the inflammatory process in the meninges.

The symptoms and signs resemble those of the meningitis of tuberculosis. The course of the disease, however, is very different.

The diagnosis, as a rule, is not difficult. The coincidence or immediate precedence of mumps is, of course, suggestive. Other forms of meningitis, particularly the tuberculous and epidemic cerebrospinal forms, which often appear to be a primary meningitis, must be ruled out. In tuberculous meningitis, there is usually a history of decline in health preceding the initial headache and vomiting. The course of the disease is very gradual, reaching its height between the second and the third weeks. From the start, epidemic cerebrospinal meningitis is very acute, with high temperature. Mumps meningitis begins insidiously with constipation, headache and vomiting, and little or no fever throughout, the height of the disease being reached in from twenty-four to forty-eight hours, and the complication terminating in from four to seven days. In tuberculous meningitis the spinal fluid during the first forty-eight hours shows no definite changes. In epidemic cerebrospinal meningitis, the spinal fluid is cloudy, and contains the characteristic organisms and many polymorphonuclear cells. In mumps there are many mononuclear cells in a clear or opalescent fluid. The diagnosis may be difficult when the complication appears late, after a mild case of parotitis.

Most patients recover, though in some instances, temporary neuritis has occurred. Atrophy of the auditory and optic nerves, also hemiplegia, is a feature of the cases. The gravest forms are those affecting the vital centers. If the substance of the medulla, as in poliencephalitis, or the vagus nerves are affected, the cases are sure to be fatal. A better prognosis can be promised those patients in whom the affection of the vital centers is only one of intradural pressure. Here a lumbar puncture, as in one of my cases, may be the means of saving the patient's life.

The following cases occurred in private practice during the months of February and March, when the epidemic of mumps was at its height. They illustrate some of the severer and milder forms one is apt to encounter.

REPORT OF CASES

CASE 1.—G. F., a boy aged 4 years, was bright but undersized, and his parents were neurotic. At birth, the delivery had been made with the aid of instruments. He had been bottle fed from the second month. Two years previous to the time of consultation, he had had an attack of acute interstitial nephritis, complicating influenza. This condition of the kidney had persisted; otherwise the boy had been in apparently good health. Feb. 4, 1918, an acute epidemic parotitis on the right side developed. The temperature was 99 F. The right parotid remained slightly enlarged for two days, when the left began to enlarge. Neither side became unusually large, nor was the temperature ever more than 99.

February 18, at 10 a. m., the patient was sitting up in bed. There had been obstinate constipation, headache and vomiting for the past twenty-four hours. The temperature, pulse and respiration were normal. The left parotid was slightly enlarged. The abdomen was slightly retracted, but there was no rigidity of the neck or other meningeal sign. As the child had nephritis, the symptoms were attributed to this, and treatment was instituted accordingly.

February 18, at 5 p. m., there were intense headache, irritability and drowsiness. The child was on his back with the head held rigidly backward and the knees flexed. Both Kernig signs were present, together with a scaphoid abdomen and a tympanitic skull. The temperature was 97, the pulse 70, and the respiration 18. Vigorous catharsis and high enemas had been ineffectual.

February 18, at 10 p. m., I heard the typical cerebral cry in the street before I entered the house. The patient was now in a very bad state, with symptoms of intradural pressure. Reaction to all forms of stimulation was very sluggish. The pupils were dilated, showing no reaction to light. The Kernig and Babinski signs were very weak. The temperature was 96 and the pulse 54, being irregular and intermittent. The respiration was 12, and was of the Cheyne-Stokes variety. A lumbar puncture was done, and 20 c.c. of opalescent fluid were withdrawn under considerable pressure. Ten minutes later, the temperature was 97.8, the pulse 88, and the respiration 18. Two hours later the patient was sleeping restfully.

February 19, at 8 a. m., the patient was sitting up in bed demanding food. He complained slightly of headaches. Aside from a slight retraction of the abdomen and weak

1. Acker, G. N.: Parotitis Complicated with Meningitis, Am. Jour. Dis. Child., December, 1913, p. 399.

Kernig sign, there were no signs of meningitis. There were, however, a slight erythema and a tache cérébrale, often seen in tuberculous meningitis, over the face and body. The bowels were open. From now on, for the next three days, there was a slight headache, some constipation and irregular pulse, after which the patient was in comparatively good health.

February 28, he experienced severe abdominal pain and vomiting. The temperature was 102, and the pulse 110, being irregular. The abdomen was very rigid and tender, as in peritonitis. These symptoms and signs persisted twenty hours, after which they subsided. The urine contained no sugar nor fat. There were no other metabolic changes present to confirm the suspicion of an acute pancreatitis. From now on the patient made an uneventful recovery. The report on the spinal fluid, made by Dr. Josephine B. Neal of the laboratory of the department of health of New York City, was: Ten c.c. opalescent fluid. Cytology, 99 per cent. Mononuclears, great increase. Bacteriology: Spread apparently negative. Culture, negative. Albumin + + 1. Globulin + + 1, Fehling's + + +.

CASE 2.—H. S., a girl, aged 9 years, was bright, nervous and undersized. Her parents were of nervous temperament. She was fed by bottle from the first month. She had had measles three years previously.

February 24, she had a mild parotitis on the left side. The temperature was 101 F. The parotid gland was normal after two days. There was no fever after the second day.

February 28, intense prostration occurred with headache, vomiting and constipation of twelve hours' duration. There was a rigidity of the neck and spine, also a scaphoid abdomen and a slight Kernig sign. The temperature was 99, the pulse was 110 and irregular, and the respiration 20.

These symptoms and signs were present for the next four days, progressively improving. The gastro-intestinal symptoms disappeared first. The irregular pulse persisted for three weeks after the first appearance of the meningitis.

CASE 3.—M. S., a girl aged 5 years, was bright and undersized. The parents were neurotic. She had been fed by bottle after the fourth month. She had had measles two years previous to the date of consultation, and lobar pneumonia with meningismus eight months previous.

March 5, 1918, a bilateral parotitis, moderately severe, appeared. The temperature was 102.

March 9, a severe headache set in, with vomiting and constipation, marked irritability and insomnia. The temperature, pulse and respiration were normal. The abdomen was retracted. There was a slight rigidity of the neck, with increased knee jerks, and a left Kernig sign was present.

The following day, the symptoms and signs were the same, but there was greater prostration. From now on, the patient progressively improved, except during a recurrence of the parotitis on both sides, March 11.

COMMENT

The last two cases were relatively mild and would ordinarily have passed as gastro-intestinal attacks. The absence of fever and the marked prostration should, however, make one suspicious. Meningeal irritation, or meningismus, is to be thought of in the milder cases even though the necropsies have demonstrated definite inflammation in the severer forms. In Case 1, there was no doubt of the diagnosis from the start, its course being very different from that of the other forms of meningitis. The value of early spinal puncture cannot be too much emphasized in this type of case. It was not indicated as a therapeutic measure in Cases 2 and 3, in which there were no signs of cerebral pressure.

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Importance of Health.—With a greater degree of health among all, religion will become more effective for good, mortality will have a deeper significance and a wider application, and knowledge will multiply and distribute its blessings more widely.—Vaughan.

THE ANAMNESIS IN CARDIOVASCULAR DISEASE

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Cardiovascular disease is now the chief cause of death in the registration area, which covers slightly more than two thirds of the population of the United States. Cardiovascular degeneration, for the most part, is an insidious condition, far more difficult to diagnose in the incipient stages than is tuberculosis, but far more prevalent than tuberculosis and more frequently unrecognized by the practitioner.

As a result, I believe, of the great popularity of nostrums in this country, the millions in capital exploiting nostrums, and the vast propaganda of the nostrum interests that work indefatigably to misinform and mislead the lay public through every available avenue of publicity open to dishonest advertising, the great majority of victims of cardiovascular disease do not consult a physician until some alarming manifestation of the disease drives them to his office. And even then, too often, either the patient is averse to a painstaking examination or the physician is too busy, in his way, to make such an examination, so that the condition drifts on for months and years undiagnosed, nay, unsuspected, until disaster comes and realization bursts on the persons concerned. This is the explanation of the popular notion, a notion sometimes encouraged by physicians, that Bright's disease is generally fatal in a year or two, that apoplexy comes like lightning from a clear sky, that heart failure is a sudden calamity that occurs without warning. This is also the explanation for the shameful abuse of such makeshift terms as "debility," "overwork," "run down condition," "nervous exhaustion" and "neurasthenia" in lieu of a diagnosis of the cardiovascular degeneration of middle age.

It is a well recognized fact that a competent physician can and must make a tentative diagnosis of incipient pulmonary tuberculosis, and institute the proper regimen and treatment, long before bacilli can be recovered from the sputum and long before any serious breakdown of health has occurred. Granted that even the most skilful diagnostician occasionally errs in this tentative diagnosis, no great harm has been done the patient in any case, since the usual treatment employed for incipient tuberculosis can do no harm if the patient happens to have, say, masked exophthalmic goiter instead, and, indeed, may be precisely the treatment required by such disease. We all know that the best of diagnosticians is bound to make such mistakes; one with mediocre ability must confess such mistakes. But does this fact militate against the wisdom of a tentative diagnosis of tuberculosis? Or does it weaken the physician's morale in his procedure in future cases of similar character? Not if he is a good doctor. The only man who never makes a grave diagnostic error is the man who never makes a timely dignosis.

The average well trained physician nowadays has the ability to diagnose cardiovascular degeneration long before Bright's disease, heart muscle failure, apoplexy or general arteriosclerosis overtakes the patient. He has the necessary instruments of precision to corroborate his tentative opinion. But he lacks only the courage to be blunt. He fears to frighten his patient.

For years the same phobia handicapped good men in the diagnosis of incipient tuberculosis. It led them to rather sorry lengths. They fell into the bad habit of telling patients that there was "a weak spot" in one lung, "a slight catarrhal condition" in the apex, or "a few râles" audible by auscultation. They frightened the patient but withheld a definite opinion; in short, they quibbled. And quibbling only led to loss of confidence in the physician sooner or later.

Today we are passing through a similar era in our effort to grasp the tremendous problem of cardiovascular degeneration. We are quibbling with the patient. We are diagnosing "high blood pressure," "functional heart trouble" or "autointoxication." Patients with cardiovascular disease are drifting along from month to month, from year to year, in ignorance of their condition, and, what is worse, seeking relief wherever a plausible promise is held out — and plausibility is the hallmark of the modern charlatan.

What does a physician mean when he assures a patient the "trouble is only functional?" The truth is he does not exactly know what he means. He is quibbling with himself. Disease is altered function; if every organ is normal there will be no altered function. Then how can there be any distinction between "organic" and "functional" disease? Every organic disease is functional; if there were no functional disturbances there would be no symptoms. Every functional disease is organic, only our knowledge is sometimes not sufficient to make the diagnosis, or our opportunity is limited by circumstances beyond our control. The patient either will not submit to necessary observation and study, or cannot afford to pay for them.

The anamnesis of cardiovascular degeneration is written in the testimonials published by the nostrum makers, in the news columns of the daily papers, and in scattered, sketchy notes in the practitioner's case records. It is a puzzle picture so cut up and confused in medical textbooks that one succeeds in piecing it together into a significant whole only after some years of general practice. Perhaps the reason the picture is commonly overlooked is that it requires years to complete it in an individual case. And again, the patient is prone to lose interest in the effort and go off to sit for another artist. It is a new idea, this cardiovascular degeneration. The very term has an unpleasant sound. Degeneration, to the lay mind, suggests degenerate, and degenerate suggests something revolting. Deterioration is no better, for the victim in the last stage resents deteriorating. Had our friends the fishwives not already spoiled it, the change of life might meet the requirement; but one would be taking some risk telling a man that he was going through the change. General arteritis might suffice, unless some one has a more acceptable term.

Bearing in mind that cardiovascular degeneration is the most widespread disease of persons over 40 years of age and that it occurs probably ten times as frequently as cancer, one must think of it as a not improbable cause of the general ill health of patients of middle age who seek medical advice after a prolonged trial of the various nostrums and plausible remedies so popular with the public.

The man or woman of 40 or more who comes complaining of loss of strength, falling off in efficiency both physical and mental, gradual accumulation of superfluous weight, mild dyspnea on exertion, "stomach trouble" or "gas" not apparently due to abdominal lesion, restless or unrefreshing sleep, "all tired out," "run down condition," fatigue headaches, "poor circulation" or "nervousness" certainly requires a careful study of the cardiovascular system. A symptom that has struck me as rather suggestive in the anamnesis is failure of sexual competence in a middle-aged man not suffering with any discoverable genital lesion.

When repeated measurements at short intervals and at varying periods of the day show a constant elevation of the systolic pressure above 140 mm. of mercury, a diagnosis of cardiovascular disease should be considered feasible until definitely ruled out by rigid correction of the patient's habits.

Inability of the patient to hold the breath for at least thirty seconds without preliminary hyperpnea should raise the suspicion of cardiovascular disease.

A pulse rate remaining more rapid than normal for over three minutes after fifteen deep knee flexions should also arouse a suspicion of the cardiovascular integrity, be the patient a neurasthenic or not. "Neurasthenia" developing after 40 is in itself suggestive of cardiovascular degeneration, irrespective of alleged overwork or worry.

The full, florid or tumid face, with slight exophthalmos, in a person over 35 who has accumulated excessive weight in recent years and boasts of a hearty appetite, though troubled with "biliousness" or fulness after meals (a high stomach, some patients call it), is very likely a mark of cardiovascular disease.

It is the practice of physicians to treat acute respiratory infections, wrongly called "colds" and "grip," in a routine way, the expectant way, without attempting any great refinements of diagnosis. And this practice has proved reasonably satisfactory. But it has long been the practice to insist on great refinement of the diagnosis in cardiovascular disease, although the routine treatment that proves most successful is very much the same whether the individual case be considered myocarditis, arteriosclerosis, nephritis or apoplexy. Diet, medication, physical therapy, rest, exercise are all managed according to individual indications, and not according to the particular expression of the degeneration in a given instance. The administration of digitalis, for example, is not indicated by the expression of the degeneration, but by the patient's general condition as determined by examination. The same holds true of most remedial measures employed in cardiovascular disease. In other words, treatment cannot be intelligently prescribed for the disease, but must be suited to the needs of the patient.

Although the fine art of prognosis seems ever more difficult and unattainable in general practice, one harbors the idea that the best prognosis rests on an intimate knowledge of the patient's general condition rather than on any fine spun anatomic diagnosis of the specific area of his vascular system which is most injured.

In view of the common incidence of chronic cardiovascular degeneration as compared with that of tuberculosis, a diagnosis of the condition in its incipiency should be more frequently made than the diagnosis of incipient tuberculosis, and may be tentative as is that of the latter, with only benefit to the patient.

If physicians were in the habit of making such a diagnosis as a routine in daily practice, many millions of dollars now squandered by the laity for worthless and fraudulent nostrums and countless plausible brands of treatment exploited by irresponsible healers would probably be diverted to the useful work of preserving efficiency and prolonging life.

A PLAN OF RECTAL FEEDING

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In devising a plan of rectal feeding, it seems proper to take into consideration the following facts and principles.

Proof that the colon possesses adequate digestive capacity is lacking, and consequently all food introduced by way of the rectum should be completely predigested if it is not already in forms suitable for immediate absorption by the colonic mucosa.

It is necessary to think of the protein ration in terms of amino-acids, and of particular amino-acids, because the proteins of different foodstuffs split up into different groups of amino-acids, and the body not only requires for its synthetic purposes a definite variety of amino-acids, but requires them in particular proportions if its nitrogenous economy is to be favored. Articles of food whose protein contains potentially all the amino-acids that the body needs in approximately ideal proportions are animal flesh, eggs and milk. Flesh and eggs are undesirable because of their tendency to putrefy. Milk, while possessing all the advantages of flesh and eggs with some additional ones, is comparatively free from this disadvantage, being protected from putrefaction by its finely commingled lactacidifiable carbohydrate. Milk, then, appears to be the ideal source of protein for a nutritive enema. And it is obvious that the milk should be fresh and unboiled, so that its vitamins and enzymes may be preserved unchanged; and thoroughly peptonized and pancreatized, so that its protein may be reduced as far as possible to amino-acids. It should also be skimmed, because any considerable amount of fat introduced into the colon apparently cannot be of use and may be harmful.

Glucose in solution supplies carbohydrate in a perfectly available form.

Salts are as necessary in the diet as protein and fuel, and it is desirable that the salts ration be balanced. The salts of milk approximate the body requirements, and desirable salts may be supplied to a limited extent by strained fruit juices, which add, moreover, in the form of levulose, a carbohydrate that seems to be capable of absorption to a limited extent: the carbohydrate of milk, lactose, is apparently not available for fuel, but its susceptibility to lactic acid fermentation makes it useful for inhibiting putrefaction. Additional salts, particularly salts of sodium and calcium, are required if the rectal feeding is kept up for any length of time.

The essentially alkaline character of the diet should be preserved in a pronounced degree. This principle receives additional emphasis from the fact that the unavoidable insufficiency of the carbohydrate ration diminishes the capacity of the body to burn fats completely and increases the liability to acidosis. The human tissues in general require as a constant condition of their life that they be bathed in an alkaline fluid. This requirement would seem to be an inheritance from the primordial era when our remotest unicellular ancestors began life in the ocean. When in due time our ancestors emerged from the ocean to live on dry land, they dragged with them a bag of alkaline fluid not much dissimilar to sea water; and at the present time our body appears as a bag of such fluid with the tissues floating around in it. Oxidation is also a condition of life, and oxidation makes for acidosis. Acidosis constitutes as universal and constant a chemical menace to the life of our tissues as bacteria do a biologic one.

The vitamins, whose presence is necessary to enable the body to utilize its food, are apparently of two general classes, as regards certain physical characteristics, namely, the water soluble and the fat soluble. The former can be supplied by milk, cereal decoctions and fruit juices, and the latter by milk.

In accordance with these facts and principles, the following prescriptions for rectal feeding have been constructed.

PRESCRIPTION 1 FOR RECTAL FEEDING

This prescription supplies daily 20 gm. of protein, presumably in the form of amino-acids, fuel of the value of about 700 calories, salts and vitamins, and water to the amount of about 50 ounces.

At 6 a. m., a mixture, consisting of glucose, 1 ounce; strained juice of one-half orange; sodium bicarbonate, 30 grains; sodium chlorid, 30 grains, and water, to make 10 ounces, is injected.

At 8 a. m., 5 ounces of skimmed milk, thoroughly peptonized and pancreatized, are injected.

At 12 m., the same as at 8 a. m.

At 4 p. m., the same as at 6 a. m.

At 6 p. m., the same as at 8 a. m.

At 10 p. m., the same as at 6 a. m.

At midnight, the same as at 8 a. m.

Every second day, at 4 a. m., a colonic irrigation with physiologic sodium chlorid solution is given, and the glucose enema at 6 a. m. is omitted.

Modifications of Prescription 1.—The quantity of the glucose enemas may be reduced to 8 ounces.

The amount of the glucose in the glucose enemas may be reduced to one-half or two-thirds ounce.

The amount of the glucose enemas may be increased to 12 or 16 ounces with or without an increase in the percentage of glucose.

A quarter of an ounce of glucose may be added to each milk enema.

The glucose enemas may be omitted altogether, with or without substitution of drink enemas of physiologic sodium chlorid solution.

Calcium chlorid, 5 grains, may be added to each glucose or drink enema.

A culture of acidophilic bacteria may be added to any of the enemas as specified.

PRESCRIPTION 2 FOR RECTAL FEEDING

This prescription supplies daily fuel to the amount of about 700 calories, salts and vitamins, and water to the amount of 60 ounces, but no protein.

At 6 a. m., a mixture, consisting of glucose, 1 ounce; the strained juice of one-half orange; sodium bicarbonate, 30 grains; sodium chlorid, 30 grains, and water to make 10 ounces, is injected.

At 10 a. m., the same as at 6 a. m.

At 2 p. m., the same as at 6 a. m.

At 6 p. m., the same as at 6 a. m.

At 10 p. m., the same as at 6 a. m.

At 2 a. m., the same as at 6 a. m.

Modifications of Prescription 2.—The same modifications may be made of the enemas in this prescription as of the similar glucose enemas in Prescription 1.

The sodium bicarbonate in the enemas may be increased, even to 60 grains.

The orange juice may be temporarily omitted.

Calcium chlorid may be added to the enemas.

The enemas should be introduced at a temperature of 100 F., and slowly; the patient's buttocks should be elevated, and he should lie on his right side for an hour after the injections.

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THE SENSORY DISTRIBUTION OF THE TRIGEMINAL NERVE

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The charts used to indicate the place, extent and nature of sensory changes due to disease of the nervous system fall into two groups: those showing the distribution of peripheral nerves, and those showing the distribution of the spinal segments or posterior roots. The distribution of the trigeminal nerve is sometimes included in both these groups. When it is, it is usually that of the entire nerve root (Fig. 2) or that of the three main branches entering the gasserian ganglion (Fig. 3).

The use of the word "segmental" is somewhat confusing. The terms "segmental" and "radicular" are often used interchangeably, and justly so when they apply to the spinal cord. This cannot be done in the case of the trigeminal, as will be shown presently. The word "segmental" should be limited to distributions of intramedullary origin.

Some confusion arises from the fact that the first two of the three distributions, segmental, radicular and peripheral, are identical for the spinal nerves. This is aggravated by the fact that no two of the three distributions is the same for the trigeminal nerves (Figs. 1-4). Figure 5 shows that the trigeminal nerve represents several sensory segments which supply sev-

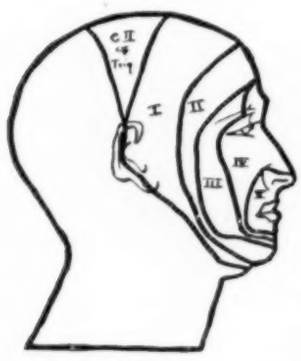


Fig. 1

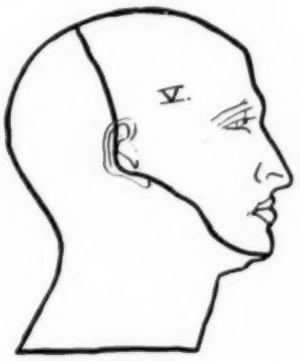


Fig. 2

Fig. 3

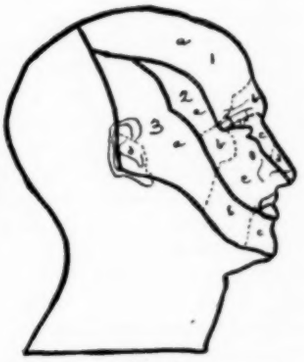


Fig. 4

Fig. 1.—Segmental distribution of trigeminal nerve, Section E (Dejerine). Fig. 2.—Radicular distribution of trigeminal nerve, Section C-D (Dejerine). Fig. 3.—Peripheral distribution of trigeminal nerve, Section B-C (Dejerine). Only the areas of the three main branches are shown. Fig. 4.—Peripheral distribution of trigeminal nerve, Section A-B, showing areas of branches of each of the three main branches: 1. *a*, supra-orbital; *b*, supratrochlear; *c*, infratrochlear; *d*, nasal; 2. *a*, temporal; *b*, malar; *c*, infra-orbital; 3. *a*, auriculotemporal; *b*, buccal; *c*, mental; *d*, gasserian ganglion. Composite of charts of C. L. Dana, Dejerine, Schäfer and Symington in Quain's Anatomy, and F. Merkel in Barker's Monographic Medicine.

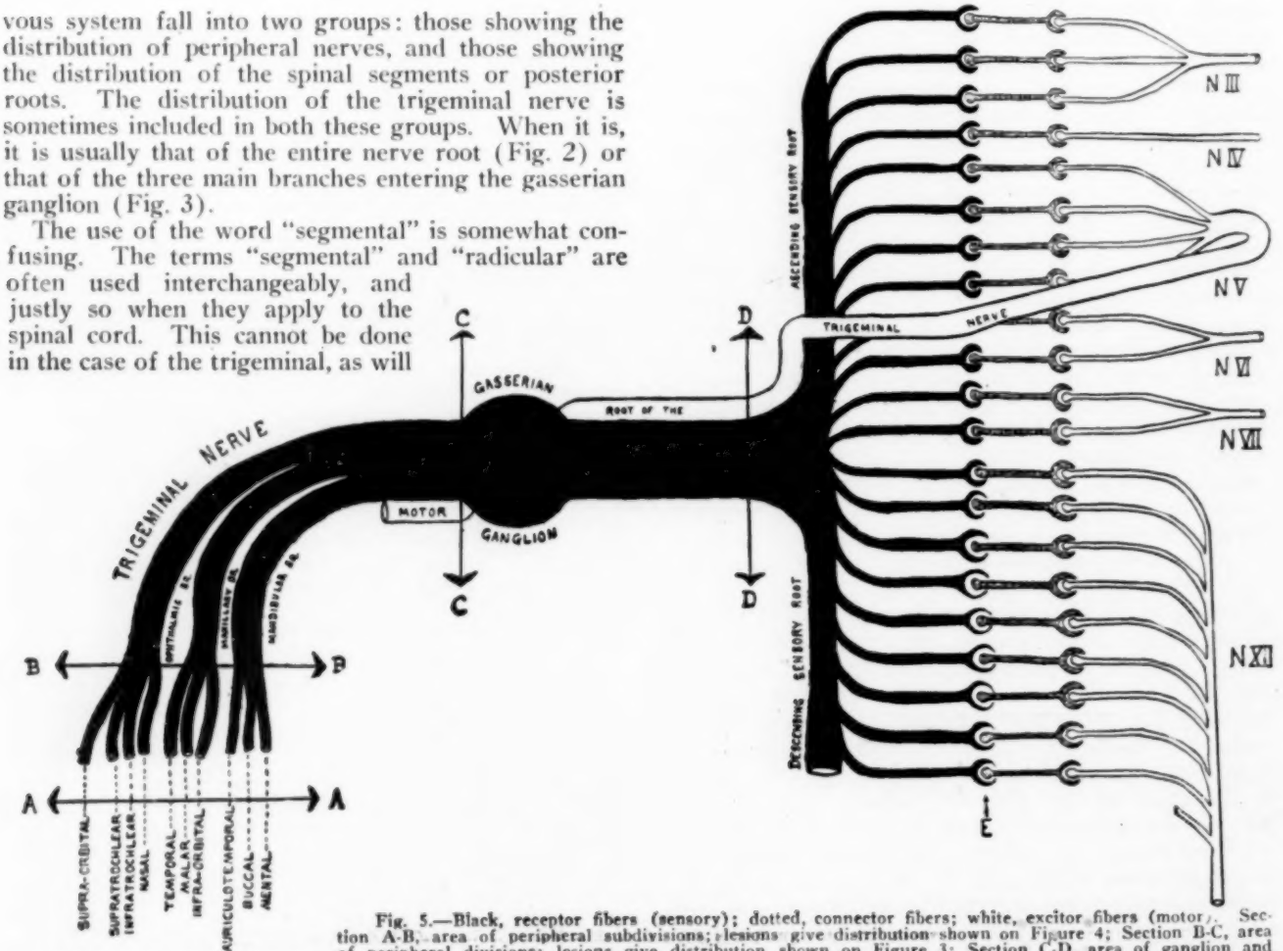


Fig. 5.—Black, receptor fibers (sensory); dotted, connector fibers; white, excitor fibers (motor). Section A-B, area of peripheral subdivisions; lesions give distribution shown on Figure 4; Section B-C, area of peripheral divisions; lesions give distribution shown on Figure 3; Section C-D, area of ganglion and root; lesions give distribution shown on Figure 2; Section D-E, area of ramification of root fibers; distribution of lesions not known with certainty; Section E, area of ganglion cells; place of juncture with fibers connecting to motor nerves and thalamic centers; lesions give distribution shown on Figure 1; lesions above E give distribution of area shown on Figure 2. Each ramification of the entering trigeminal root represents a primjtive segment. In the case of the oculomotor roots, one segment has been omitted, in the case of the trigeminal, two, in order not to distort too greatly the relative length of the ascending and descending roots. The diagram is modified from Gaskell's Involuntary Nervous System, 1916, p. 6.

eral motor segments (the third, fourth, fifth, sixth, seventh and twelfth nerves). The diagram emphasizes the segmented nature of the trigeminal.

The inclusion of the radicular distribution of the trigeminal in a segmental chart omits the segmental (Fig. 1). The inclusion of the peripheral distribution (Figs. 3 and 4) is a mistake. The only proper area in a radicular chart would be the entire trigeminal area

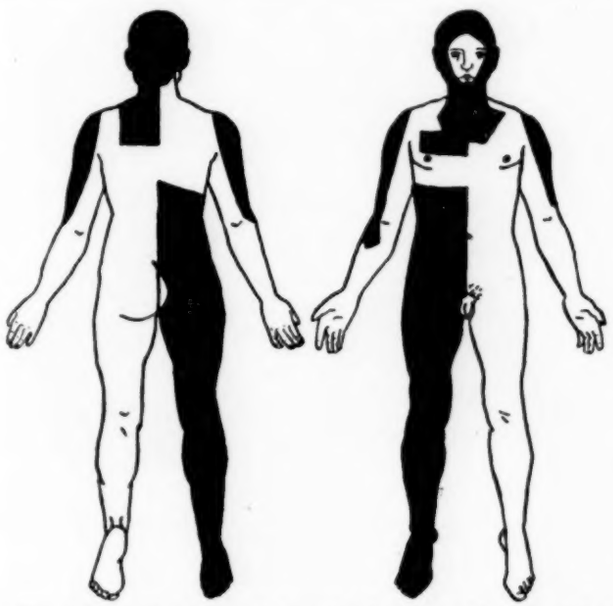


Fig. 6 (Case 1).—Areas of loss of pain sense. Note the helmet type of analgesia.

(Fig. 2). An examination of a number of textbooks on neurology has shown that the segmental distribution of the trigeminal (Fig. 1) is given only in Dejerine's "Séméiologie des affections du système nerveux" and White and Jelliffe's "Diseases of the Nervous System."

The somewhat complicated anatomy of the trigeminal as compared to that of a typical posterior root (Fig. 5) makes the question of the skin distribution of its sensory part equally complicated. Starting with the peripheral endings there are five different sensory distributions. The sections are divided as follows (Fig. 5):

Section A-B. Peripheral endings to the points of union of the branches of the three main divisions, ophthalmic, maxillary and mandibular (Fig. 4).

Section B-C. From the point of union of the branches of the three main divisions to the point of union of the three main branches themselves, that is, to the distal end of the gasserian ganglion (Fig. 3). Lesions of sections A-B and B-C give peripheral distributions.

Section C-D. From the distal end of the gasserian ganglion to the entrance of the nerve into the lateral aspect of the pons (Fig. 2). Lesions of this give radicular distribution.

Section D-E. From the point at which the fibers entering the pons begin to pass to the sensory intramedullary nucleus, to that nucleus itself. This nucleus extends from slightly above the level of the entrance of the nerve into the pons down to the third cervical segment (Fig. 5). It may readily be seen that a lesion involving the fibers just after their point of entrance into the pons will give a distribution like that produced by a lesion of Section C-D of the nerve. No diagram of the distribution which would be caused by a lesion of any part of Section D-E can be given, the reasons being that the description given by Dejerine (p. 836) is not clear to me, no diagram has been found illustrating this distribution, and no cases have been seen in which it has been made out.

Section E. This includes the ascending and descending nuclei and the fibers passing thence to the thalamus at their respective points of emergence from the nuclei. Lesions here give segmental distribution. The course of these fibers to the thalamus is known. They divide into two parts, a dorsal and a ventral. However, the function of the two parts has not been determined with certainty so that it would be impossible to give a chart of their distribution.

Two cases illustrating the segmental distribution are given to emphasize the necessity of having charts on which to indicate it. Only brief reports are given, as the object is only to emphasize the type of trigeminal distribution.

CASE 1.—C. R., man, aged 47, Italian, hod carrier, single, had a queer feeling in the legs, an occasional burning in the right leg, weakness of the legs and the right hand, and pain in the lumbar region. He had had no illness of importance. Onset had occurred five years before, when he noted stiffness of the fourth and fifth fingers of the right hand. Two and a half years later he noted jumping of the left leg and a feeling of burning in the right leg. In the spring of 1917, weakness of the right hand began and also some difficulty in recognizing objects when grasped but not seen (astereognosis). He was unable when seen to feel cold water as such on the left leg. There was no bladder disturbance.

There were signs of involvement of the pyramidal tract, right and left. There was a right and left Babinski reflex, the knee jerks were exaggerated, and there was ankle and patellar clonus. The abdominal reflex was absent on the left. The reflexes of the upper extremity were present and equal.

Fig. 7 (Case 1).—Areas of loss of pain sense.

Fig. 8 (Case 1).—Areas of loss of pain sense.

There was fibrillary tremor of both deltoid muscles and the left quadriceps femoris. There was slight ataxia of the left hand (F-N test). Romberg's sign was absent. The sensation is shown in Figures 6, 7 and 8. Only pain and temperature were involved. Cerebral nerves other than the fifth were not involved.

The diagnosis was syringomyelia, syringobulbia.

CASE 2.—G. W., woman, aged 65, married, housewife, complained of tingling and paresthesia of the arms, especially the left. There was muscular twitching of the arms and shoulders. There was stiffness of the back and a feeling of

constriction about the chest. There was difficulty in speaking and swallowing. Constipation was obstinate. The past history was negative. About twenty years before, the patient sustained a severe injury to the neck from a fall beneath a wagon. She was unconscious. She remained in bed seven or eight months because her back was weak. The left arm was paralyzed, but function was recovered about five weeks after the accident. The neck was weak and remained so for several years, there being difficulty in holding up the head. After a long period of practical freedom from any trouble, the following symptoms began to appear: difficulty in swallowing and talking, unsteady gait, and inability to use the left arm properly. These symptoms appeared about three years before the examination. There was also a feeling of constriction about the chest. All these symptoms have progressed slowly. At the time of the examination the patient was unable to lift her left arm; it felt weak and heavy. There had also developed a feeling of stiffness in the right arm. There had been obstinate constipation for three years. There was no history of bladder involvement. There was palpitation of the heart on the slightest exertion. She had also noted some unsteadiness and difficulty in walking. Four or five years before, the patient, after a violent sneeze, felt a snap in the neck and an electric shock down the left arm. She felt faint.

There was a horizontal nystagmus. The right pupil was greater than the left. Reaction was fairly prompt. As the result of an old accident, the patient could not count fingers with the left eye. She was hoarse. The reflexes were exaggerated at the knees and ankles. The Babinski reflex was elicited on both sides. There was no clonus. Hoffman's sign was observed in both hands. The right arm was freely movable. The left arm could not be raised. The biceps and triceps were powerless. Extension and flexion of the wrist was feeble. The trapezius and deltoid were almost powerless. The sternocleidomastoid was weaker than that on the right; the change, however, was slight. There was myokymia in both arms and shoulders, though mainly in the left. The left arm 50 cm. from the tip of the middle finger measured 1.5 cm. shorter than the right. The gait was slow and shuffling.

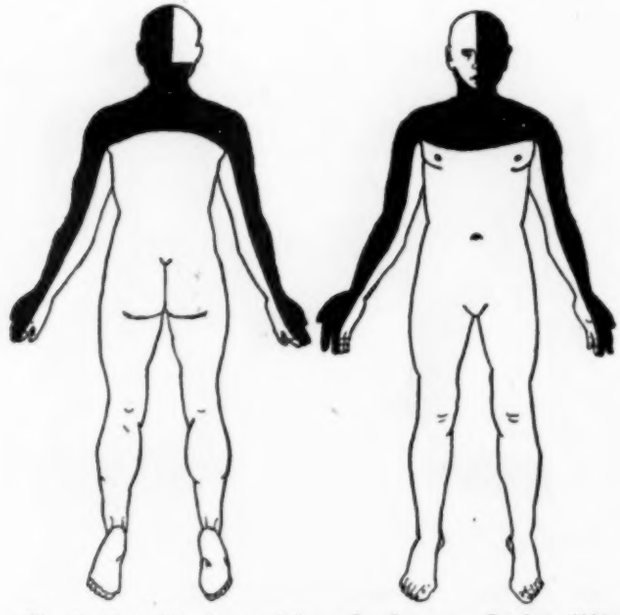


Fig. 9 (Case 2).—Areas of loss of pain sense, October, 1914.

There was no manual or pedal incoordination. There was slight postural difficulty in the thumb of the left hand. The sensation is charted in Figures 9, 10 and 11. Figure 9 shows the condition in October, 1914; there was involvement of the entire left side of the head. Figure 10 shows the condition two months later, and Figure 11 the condition two years after that. These charts are of pain sensation only. The changes of the extent of involvement of temperature sensation is not discussed, as this paper is meant only as a comment on types of trigeminal sensory distribution.

The diagnosis was syringomyelia and syringobulbia.

It will be seen that in Case 1, V-1 and V-2 are involved while the hypoglossal nucleus is not. This implies that the areas V-1 and V-2 are equivalent to the substantia gelatinosa Rolandi (sensory nucleus of the trigeminal) from the upper limit of the third cervical segment to about the level of the hypoglossal nucleus. Though we have no evidence like this to indicate that the place of transition between V-4 and V-5 corresponds to the plane of entrance of the nerve, the fact that there is a small part of the sensory nucleus running above this plane would make it probable. The area V-5 would in that case be supplied by that part of the nucleus lying above the plane of entrance of the nerve. As has been said above, we have no clinical evidence at hand to prove this.

Fig. 10 (Case 2).—Areas of loss of pain sense, December, 1914. Note that the whole left trigeminal area was not involved at this time, as in October.

Fig. 11 (Case 2).—Areas of loss of pain sense, November, 1916. Note considerable changes in the contour.

It is suggested that charts showing cerebrospinal radicular distribution (Fig. 2) be eliminated. They are unnecessary because a cerebrospinal segmental chart will show the segmental distribution of the trigeminal (Fig. 1) and spinal nerves as well as the radicular distribution of the spinal nerves. On the other hand, a cerebrospinal peripheral chart will show the peripheral distribution of the trigeminal (Fig. 3) and spinal nerves as well as the radicular distribution of the trigeminal (Fig. 2, sum of the three divisions V-1, V-2 and V-3). Even greater usefulness could be obtained from the peripheral chart by giving the areas of the branches of the three divisions, V-1, V-2, V-3, marking the large divisions by a heavier line than that showing their subdivisions (Fig. 4). Thus this peripheral chart (Fig. 4) would show peripheral distribution of both divisions and subdivisions, while the segmental chart would show segmental distribution (Fig. 1), and they both would show the radicular distribution (Fig. 2, sum of V-I, V-II, V-III, V-IV and V-V in the segmental, sum of V-1, V-2 and V-3 in the peripheral). Either chart could be used for thalamic and suprathalamic distributions.

141 West Seventy-Fifth Street.

The Cost of Health.—We hear much of the high cost of living, but we overlook the fact that many of the best things of life can be had for nothing.—*Monthly Bulletin* (La.).

Clinical Notes, Suggestions, and New Instruments

A NEW BED DEVICE FOR FACILITATING THE DRAINAGE OF EMPYEMA THORACIS *

IRVING R. ROTH, M.D., NEW YORK

It is with the realization of the gravity of an improperly drained empyema and with the hope of facilitating such drainage, that I present this device.

It consists essentially of two parts: (1) an elevated canvas bed, spanned across the bed frame, with an opening in the canvas to permit the passage of a tube from the pleural cavity through it into the pus bottle below (Fig. 1), and (2) a series of air-tight bottles and tubes below the canvas bed (Fig. 2).

Bottle A (Fig. 3) is an 8-ounce, air-tight, pus bottle communicating with the tube in the pleural cavity. From Bottle A, air is exhausted by means of Bottle B, which is a 2-gallon irrigating bottle in which a vacuum is created by letting water flow out of its spout at the bottom by gravity into Bottle C, which is a 2-gallon plain bottle. When Bottle B is empty, it can again be refilled from Bottle C.

The patient is placed over the elevated canvas bed with the affected side dependent, with the tube from the chest through the opening in the canvas bed. This position favors a constant gravity drainage.

The system of tubes and bottles below the canvas bed, creating a vacuum in the pus bottle, tends to exhaust the pus from the pleural cavity, especially that which is not in direct line with gravity, or which, being too thick and tenacious, would tend to clog the drainage tube.

It would seem at first sight that other and better means of aspiration are available; but the one used in this device, which, with but slight modification, is the one previously used by Dr. Martin W. Ware of the attending staff at Mount Sinai, is perhaps the most useful. It is self-regulating in that, when the degree of vacuum in the pleural cavity is equal to that in Bottle B, the flow of the water from Bottle B to Bottle C stops. When the patient coughs or takes a deep breath, so that the pressure is again raised in the pleural cavity above that in the vacuum system in the bottles, the water begins to flow again automatically, and aspiration continues.

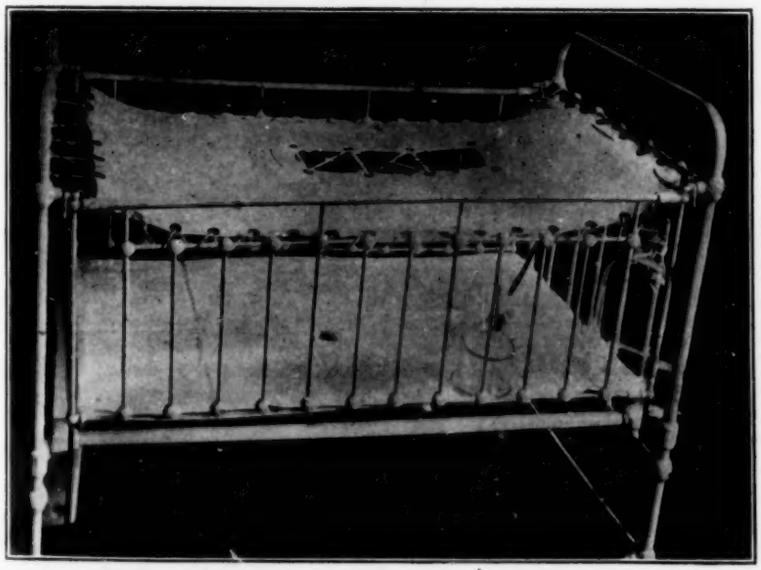


Fig. 1.—Bed device for facilitating the drainage of empyema thoracis.

At this point I would caution against the use of siphonage to create a vacuum in the pus bottle—as is often attempted—because a cough or deep breath, which in this method acts as an automatic start, would, in case of the use of simple siphonage, cause expulsion of the water from the siphon tubes and thus necessitate an attendant repeatedly to readjust the exhaust system.

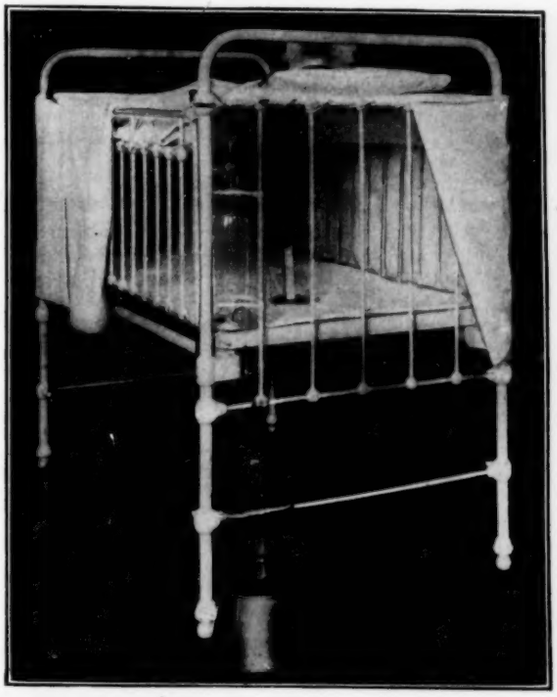


Fig. 2.—Arrangement of bottles and tubes.

ESSENTIALS TO THE PROPER USE OF THE DEVICE

1. The canvas bed should be sufficiently elevated to permit manipulation beneath it (from 16 to 20 inches).
2. The exhaust system should be air tight. Rubber stoppers should be used in all bottles.
3. The glass connecting tips should be of wide caliber throughout.
4. The drainage tube, which during operation is inserted to the depth of the pus cavity, should be withdrawn to about 1 inch from the opening in the chest, within from twenty-four to forty-eight hours after operation, so as to prevent accumulation of pus in the dependent portion of the pleural cavity around the base of the inserted tube.
5. The patient should be placed over the opening in the canvas bed, the affected side in the dependent position, with the tube from the chest pointing vertically downward in the direct line of gravity.
6. The drainage tube should be changed every three or four days in order to prevent plugging by tenacious pus or pieces of fibrin adhering to its lumen.
7. In order that the wound may be dressed, the tube leading from the chest to Bottle A is clamped, and disconnected at *D*. The tube leading from Bottle B to Bottle C is clamped. The patient is raised sufficiently to be in the prone position (Fig. 4). While the wound is being dressed the tube is secured to the chest wall by means of narrow strips of adhesive plaster, through a safety pin, which is passed through the wall of the tube, thus preventing the tube from slipping out of the chest.
8. In the case of children under 5 years of age, a binder may be placed across the chest and abdomen, reaching from the axillae to the umbilicus, secured by means of safety pins

* From the Surgical Division, Service of Dr. Howard Lilienthal, Mount Sinai Hospital.

to the canvas bed on each side in order to keep them in position. This should not be so tight as to immobilize the child.

9. After ten or twelve days, when only a small amount of serous fluid drains (from 2 to 4 drams in twenty-four hours), the child may be removed from the elevated bed, suction may be discontinued, and a small tube, cut down to the level of the chest wall, may be kept in the wound for three or four days to let the remaining pus drain into the dressing, after which the wound may be allowed to close.

10. Before the tube is finally removed from the chest, or if the temperature is oscillating, a roentgenogram should be taken to ascertain whether or not there is an encapsulated suppurating focus.

ADVANTAGES AS OBSERVED IN HOSPITAL WARDS

1. The constant gravity drainage with the intermittent self-regulating suction, besides emptying the chest in a short time, also removes subsequently formed pus as quickly as it forms, thus removing the irritating effect of retained pus from the pleural surfaces, so that, within from five to twelve days after operation, only a serous fluid is drained.

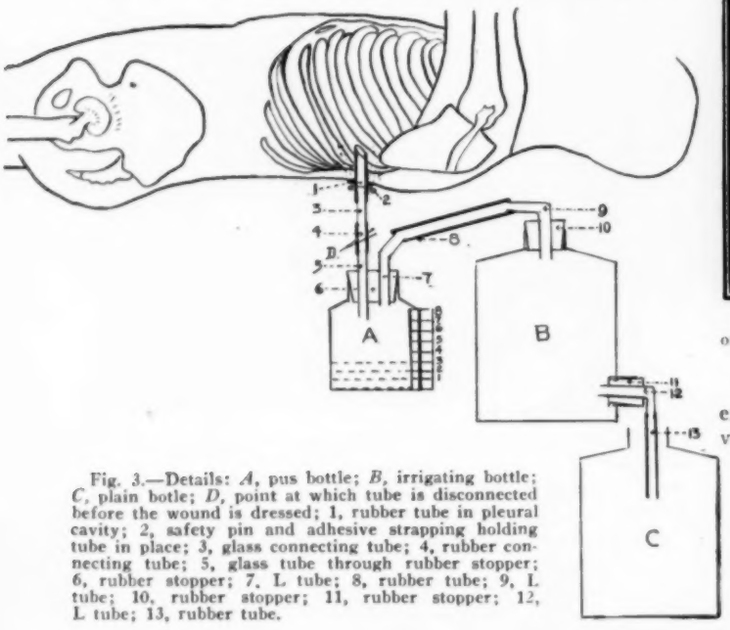


Fig. 3.—Details: *A*, pus bottle; *B*, irrigating bottle; *C*, plain bottle; *D*, point at which tube is disconnected before the wound is dressed; 1, rubber tube in pleural cavity; 2, safety pin and adhesive strapping holding tube in place; 3, glass connecting tube; 4, rubber connecting tube; 5, glass tube through rubber stopper; 6, rubber stopper; 7, L tube; 8, rubber tube; 9, L tube; 10, rubber stopper; 11, rubber stopper; 12, L tube; 13, rubber tube.

2. It prevents retention empyemas, thus incidentally preventing oscillating temperatures and toxicity from absorption; therefore, the appetite of the patient is good, and convalescence is rapid.

Fig. 4.—Patient in position for dressing of wound.

3. The partial vacuum created by the exhaust system tends to facilitate the early expansion of the impaired lung.

4. Lying on the affected side facilitates the emptying of the pus cavity and removes the weight of fluid, which would press on and impede the function of the sound and compensating lung on the unaffected side.

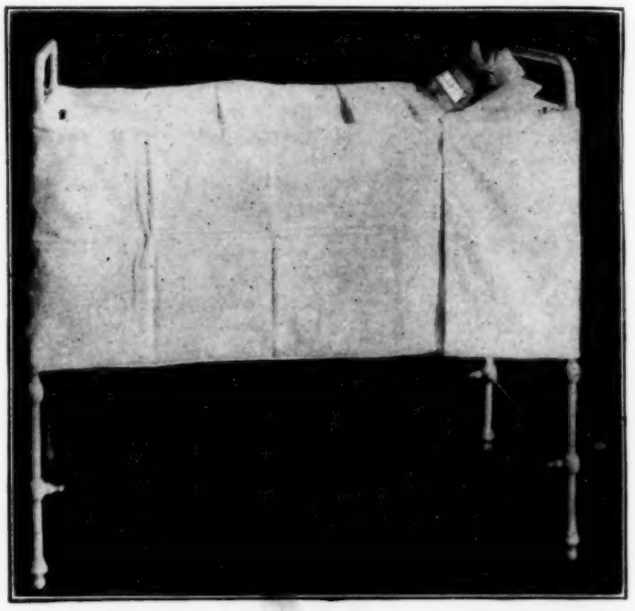


Fig. 5.—Empyema bed as it appears in hospital wards, draped, in order to prevent strong currents of air reaching patient from beneath.

5. Pus does not drain into the dressings, whereby the excoriation of the skin from pus-sodden dressings is prevented.

6. Minor thoracotomy usually suffices, because of ample subsequent drainage.

7. The amount of drainage as well as the character of the pus can be ascertained at a glance by aid of a transparent and graduated pus bottle (Fig. 3).

8. The device is simple in construction, sanitary, comfortable, well ventilated, applicable to any hospital bedstead, and applicable to a child of any age.

This method of draining empyemas has been in use at the Mount Sinai Hospital since August, 1917, and has given a uniformly gratifying result. The number of cases, as well as the details as to the influence of this method of drainage on them, will be reported at a future date.

THE PERONEAL TENDON AS A TRANSPLANT *

M. S. HENDERSON, M.D., ROCHESTER, MINN.

In certain injuries to the hand, the tendons may be divided. The patient may not present himself for some months after the injury, and the surgeon is then confronted with a great gap to be bridged between the ends of the tendon. Fascia lata removed from the thigh has been used with some success to make up this deficiency. Occasionally, the patellar ligament is accidentally divided and there is lack of extension power with the consequent "flop" knee.

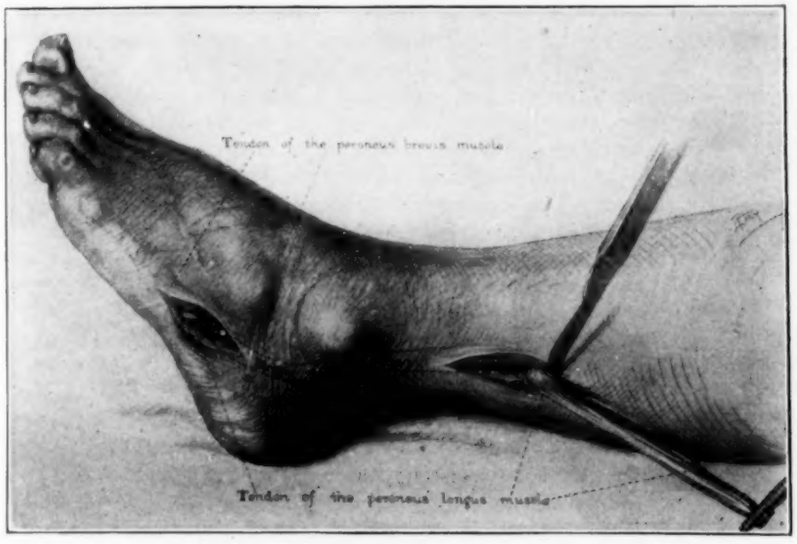
In two cases, one in which the hand was involved, and the other the knee, we removed a large piece of the peroneus longus and used it as a free transplant. In the knee the result was all that could be desired; the operation on the hand is too recent to justify the drawing of conclusions; however, the wound healed by first intention. I have not seen in the literature any reference to the use of the peroneal tendon as a free transplant, and, even though it may have been used, because of the general lack of knowledge concerning it, the method is herewith reported. The tendon has an

* From the Mayo Clinic.

advantage for transplantation over the fascia lata, in that it is a true tendon ready to take on function as soon as nourished in its new home. The removal of the tendon causes no inconvenience to the patient, and it is possible that full regeneration takes place.

About seven years ago I had an opportunity to observe the work of Sir Robert Jones, and since then I have operated in many cases of rigid flatfoot according to his method, that is, removing an inch or more of the peroneal tendons. No bad results or failure of regeneration of the tendons have followed. When a piece of the peroneus longus is removed, the peroneus brevis remains and is ample for function even if the peroneus longus does not regenerate.

After the field where the tendon is to be used is prepared (the leg having been prepared previously), the knee is flexed and the leg is rotated inward. Two small incisions are used. The lower incision is made below and a little in front of the external malleolus where the long peroneal tendon is divided just before it turns around the sole of the foot to be inserted into the head of the first metatarsal bone. The upper incision is made just behind the fibula, about 3 inches above the tip of the external malleolus, and the tendons are exposed. Pulling on the tendons above permits the peroneus longus to be readily identified; it is then divided below, and pulled up through the upper incision and divided there. In this manner, 5 or 6 inches of large tendon may be obtained and divided longitudinally into two or three pieces if so desired.



Method of removing peroneal tendon for transplantation.

THE PRACTICABILITY OF THE MODIFICATION OF THE LAVATORY CHAMBER

ZAN D. KLOPPER, M.D., CHICAGO

One of the many causes of constipation is the faulty position the body assumes during the time of defecation.

To complete the act more successfully, it is desirable to bring the abdominal muscles into play, producing pressure on the colon and intestine, and forcing the fecal matter into the rectum. Such an accumulation may evacuate itself more forcibly, as a result of the bulk, and the stimulation of the rectal nerves governing the evacuation.

The majority of those persons whose occupations compel them to remain sitting the most of the day, as bookkeepers, coachmen, chauffeurs, various officials, students, many artisans, and also obese persons who take little or no exercise, find no difference between the seat ordinarily occupied during the day's activities, and the seat of the lavatory chamber.

Figure 1 shows the position of the body on the ordinary lavatory seat. While in this condition the abdominal viscera remain passive, and the abdominal muscles exert no more pressure than during any other activities while sitting. Furthermore, the lavatory seat, being comparatively comfortable, inclines one to reading, meditation or the planning of the day's work. After unsuccessful attempts, many persons will postpone the act for a more convenient time, thus neglecting to form the habit for every day at the same hour.

Figure 2 is a suggestion for a modification of the lavatory chamber. The horizontal seat is raised under the thighs, while a projected step assists in elevating the legs, thus bringing the thighs toward the abdomen, and compressing the rectus abdominis muscle anteroposteriorly. The body finds itself in such a position that the pressure from above by the diaphragm can be easily accomplished, and thereby the contents of the abdominal viscera are easily compressed downward.

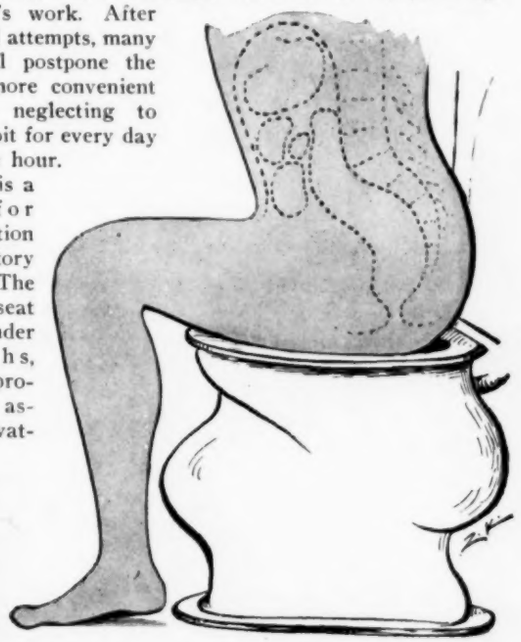


Fig. 1.—Position of the body on the ordinary lavatory seat.

Fig. 2.—Position of the body on modified lavatory seat.

1642 West Division Street.

Military Medicine and Surgery

REPORT ON ARSPHENAMIN

SATISFACTORY USE OF THE ARSENOBENZOL BRAND IN ONE THOUSAND, ONE HUNDRED AND FOUR INJECTIONS FOR SYPHILIS

VICTOR N. MEDDIS, M.D. (Louisville, Ky.)
Captain, M. R. C., U. S. Army
AND
WILLIAM C. STIRLING, Jr., M.D. (Newark, N. J.)
Lieutenant, M. R. C., U. S. Army
CAMP ZACHARY TAYLOR, LOUISVILLE, KY.

The product introduced as salvarsan became scarce or unobtainable with the beginning of the European war. Under an act of Congress, a number of firms have been licensed to manufacture this product under the name arsphenamin. This American-made product, arsphenamin, is essentially identical with the product formerly sold as salvarsan.

At the base hospital, Camp Zachary Taylor, Ky., in a series of 1,104 injections of four different preparations, namely salvarsan (Farbwerke-Hoechst Company) of which we gave eighty-five injections, arsenobenzol, 1,011 injections, arseminol, twenty injections, and arsamin, eight injections, the results were the same in each preparation, salvarsan being slightly more soluble than the other preparations.

The method of preparing the solution as used here is as follows: A flask with a capacity of 500 c.c. is used in which to make the solution. Into this is poured 150 c.c. of freshly distilled sterile water with a temperature of about 95 C., and then ten ampules of arsphenamin are added. The solution is vigorously shaken after the contents of each ampule are emptied into the flask, until all the particles are dissolved. The solution is next rendered slightly alkaline by the addition of freshly prepared 15 per cent. sodium hydroxid solution. This at first forms a heavy flocculent precipitate which redissolves on the addition of more sodium hydroxid, and becomes clear. It is tested with litmus paper for final alkalinity, and after being filtered, it is ready for injection. We started by using 100 c.c. of water to each 0.6 gm., but gradually reduced the quantity of water until now it is being given in 30 c.c. of water. In no case were any ill effects seen from using this concentrated solution. The ordinary gravity method is the one employed, and a sufficient quantity for ten injections is prepared at one time. The median cephalic or basilic veins are the ones ordinarily selected, and with a 20 gage needle, 30 c.c. of the solution are allowed to run in, from eight to ten minutes being taken for the injection, the temperature meanwhile being kept at about 37 C. Ten minutes before receiving the injection the patient is given a hypodermic of 10 minims of a 1:1,000 solution of epinephrin subcutaneously to prevent any marked reaction. The injection is given usually in the afternoon, as less time is thus lost from duty. A purgative is given the night before, the noonday meal is omitted, and after receiving the injection the patient is required to remain quiet for the rest of the day.

From a therapeutic standpoint as good results were obtained with the arsenobenzol brand of arsphenamin as with the salvarsan brand. As a majority of the cases of syphilis were seen in the early secondary stage with initial chancre, macular eruption on the body or mucous syphilids in the mouth, we were able to begin treatment early and found that it required from three to four injections given every seven days to render the patient free from all active lesions. A dark field illumination test was made in all cases presenting suspicious ulcers, whether genital or extragenital, and blood was taken for a Wassermann test in every case. As soon as a man was free from all active lesions he was returned to duty with instructions to report back twice weekly for treatment. A course of treatment ordinarily consisted of eight intravenous injections of arsphenamin and a corresponding number of mercuric salicylate in 1 grain doses, given intramuscularly. These were repeated every seven days. The arsphenamin was usually given either on Monday or Tuesday, and the mercuric salicylate on Thursday or Friday. After receiving a full course of treatment, the patients were instructed to report for weekly inspection. If, at the end of a month, they presented no active symptoms, blood was again taken for a Wassermann test to determine what further treatment was necessary. Rarely in our experience has it required more than four injections to clear up all active lesions entirely, and in only three cases was it necessary to give more than the eight injections, before the first rest period.

Arsphenamin was given in several cases of phagedenic chancroid, that did not respond to other treatment. The improvement was rapid thereafter in all the cases. We regard all slow healing indolent ulcers as syphilitic, and they are treated as such even though the *Spirochaeta pallida* cannot be found in the lesion. As the majority of patients had received some form of local treatment, the presence of the spirochetes was, of course, hard to demonstrate. In some cases, in which the initial lesion did not show the organism, the enlarged inguinal glands were aspirated, a small hypodermic needle being used, and the gland being macerated to obtain some of the contents for examination. This causes very little pain and discomfort, and often the spirochete can be found in this way when it cannot be demonstrated in the initial lesion.

In this series of cases, only three extragenital chancres were seen, two being on the upper lip and one on the lower lip, and giving a history of no genital involvement.

In those cases in which the spirochetes were found in the initial lesion, treatment was begun immediately, and blood taken for a Wassermann test. It was rare for secondary manifestations to develop. In no case was arsphenamin contraindicated after careful examination was made of the heart and kidneys.

We are firmly convinced that the toxicity of arsphenamin is reduced to nil if proper precautions have been taken in preparing and giving the solution.

REPORT OF CASES

Two cases, selected at random, are herewith reported:

Case 1.—J. W. McL., aged 23, had had an initial lesion on the glans penis two years before, with a macular eruption on the body, and sore throat at that time. He maintained that a ++ Wassermann test was made. He received one injection of neosalvarsan and took mercury pills for four months. He had no further trouble until about three months

before when the right testicle began to enlarge, but was not painful and did not worry him unless he drilled hard. He was sent to the base hospital by the regimental surgeon. A Wassermann test was made. The right testicle was enlarged, hard, smooth and not painful. This was diagnosed as interstitial sclerosis and treatment was started. He was given eight injections of arsphenamin every seven days, and also mercuric salicylate. At the end of the fourth injection much improvement was noticed, the testicle becoming softer and much smaller in size. After receiving the eight injections, he was sent back to duty free from symptoms, with the testicle normal in size and the blood test negative. He was seen again at the end of one month, and two months, and was entirely free of symptoms.

CASE 2.—A. G. D., aged 25, admitted to the hospital, Dec. 1, 1917, had had an ulcer on the glans penis eight months prior to entrance in the Army, and said he did not take any treatment and had no further symptoms until about five weeks before, when he noticed that he was becoming jaundiced. His skin was very yellow, he was easily exhausted on the slightest exertion, and he complained of severe headaches in the occipital region. On admission the patient was markedly jaundiced, the liver was enlarged and the stools were clay colored. The patient said he suffered from constipation. The Wassermann test was +++. We began treatment, giving him one injection each week both of arsphenamin and mercuric salicylate. At the end of the course of eight injections his general appearance greatly improved, jaundice disappeared, and he returned to duty. At the end of a month and again at the end of two months he was still free from symptoms. The Wassermann test was negative.

Numerous cases could be cited to show the therapeutic value of arsphenamin, would space permit.

CONCLUSIONS

1. The arsenobenzol brand of arsphenamin made in this country is in our experience nontoxic, and equally as efficient therapeutically as the original Ehrlich preparation.
2. It may be used in concentrated solution with no ill effects.
3. Epinephrin, given in a 1:1,000 solution ten minutes before the injection, will control reaction.
4. The only reaction noted in this series of cases was slight headaches; in some cases, diarrhea and slight malaise were noted.
5. In phagedenic chancroids, "arsenobenzol" has a very beneficial effect, and is recommended where the healing is slow and response to other treatment is poor.

USE OF RABBITS AS SUBSTITUTE FOR WHITE MICE IN PNEUMOCOCCUS TYPE DIFFERENTIATION

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Captain, M. R. C., U. S. Army
CAMP LEWIS, AMERICAN LAKE, WASH.

In spite of the usefulness of Avery's rapid method for pneumococcus type differentiation, it is often desirable to resort to animal inoculation either for differentiation or for isolation of pneumococci.

The susceptibility of rabbits to pneumococcus infection is so well known that there may be some reason why they have not been generally used instead of white mice for pneumococcus type differentiation; but the reason is not clear, and no statements on this point have come to my attention.

Intraperitoneal inoculation of rabbits with pneumonic sputum has been carried out in fifteen instances, and in thirteen of these pneumococci were found in the heart's blood and peritoneal cavity in abundance, always with characteristic capsules. No other organisms were found by smear in the exudate, but in two instances in which the animals had been killed about twenty-four hours after inoculation a few colonies of other bacterial species were found in the culture. Pneumococcus in pure culture was in these cases recovered from the blood. In the two cases in which pneumococci were not recovered from the peritoneal cavity, the cultures and smears were negative, the Avery culture from the sputum was negative, and no pneumococci had been found in the sputum. It is assumed that the sputum was improperly collected.

The Rockefeller technic of preparation and injection of sputum was followed, except that about three times as much sputum was injected as is recommended for mice. Several of the rabbits died within twenty-four hours after inoculation. The others were killed from twenty-four to thirty-six hours after inoculation, and these yielded abundant exudate.

The age and size of the rabbits in the present small series seemed to have no influence on the severity of the infection, but this opinion may be modified by a longer experience. Rabbits as small as 600 gm., as large as 3,500 gm., and as young as 2 weeks were successfully inoculated.

It is not desired to express an opinion as to the relative merits of white mice and rabbits in this work. A substitute for mice was needed, and it was found possible to employ rabbits with satisfactory results.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

CHLORCOSANE.—A liquid, chlorinated paraffin containing its chlorine in stable (non-active) combination.

Actions, Uses, Dosage, Physical and Chemical Properties.—See THE JOURNAL, Feb. 16, 1918, p. 459.

Chlorcosane (Calco).—A brand of chlorcosane.

Chlorcosane (Calco) contains 31 to 35 per cent. of chlorine in stable (non-active) combination when assayed by the Carius method.

Manufactured by the Calco Chemical Company, Bound Brook, N. J. No U. S. patent or trademark.

Chlorcosane-Monsanto.—A brand of chlorcosane.

Chlorcosane-Monsanto contains 27 to 30 per cent. of chlorine in stable (non-active) combination when assayed by the following method:

Mix intimately 10 Gm. of sodium peroxide (Na_2O_2) and 1 Gm. of sodium nitrate ($NaNO_3$) and place about one-third of the mixture in a Parr bomb as used in sulphur determinations. Transfer 0.2 to 0.3 Gm. of *chlorcosane*, accurately weighed (from a narrow neck weighing bottle) into the bomb; cover the sample of chlorcosane with the remaining mixture of peroxide and nitrate. Close the bomb and screw down the cover tightly with the clamp. Heat the bomb rapidly to redness. The fusion is complete when a flash of flame is emitted from the small opening in the cover of the bomb. Cool by allowing tap water to flow over the bottom. Open the bomb and place it in a covered beaker containing 200 c.c. of hot water. After solution is complete, transfer the liquid to another beaker, returning the bomb in the first beaker, washing well with hot water and adding the wash waters to the first liquor. Add nitric acid until the solution reacts acid to litmus paper and heat to boiling. Cool and add an excess of tenth-normal silver nitrate solution; the excess is titrated with ammonium-sulpho-cyanide, ferric ammonium sulphate being used as indicator.

A blank test for chlorine is made on the reagent, using the same amounts and procedures but omitting the "*chlorcosane.*" Each Cc. tenth-normal silver nitrate solution used equals 0.003546 Gm. chlorine. The chlorine content of chlorcosane should be not less than 27 per cent. nor more than 30 per cent.

Manufactured by the Monsanto Chemical Works, St. Louis. No U. S. patent or trademark.

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SATURDAY, MAY 18, 1918

SURGEON-GENERAL GORGAS AND THE RESPONSIBILITY OF THE MEDICAL DEPARTMENT OF THE ARMY

No other branch of the Army is nearer the hearts of the people in time of war than the Medical Department. Fathers and mothers whose sons have enlisted may reconcile themselves if these sons are killed in battle; but if they have reason to fear that their sons have been neglected when sick or wounded, they develop a spirit of bitterness for which there can be no antidote. This natural attitude of mind is more or less apparent in all wars. A mother may bear with pride the news of the death of her son struck down in a charge or while stubbornly resisting an advancing foe; there is no consolation when she has reason to believe his death unnecessary, or that his health was not guarded by every known agency. If he dies from disease, as many soldiers must, she wishes to feel that kindness, intelligence and skill were at his service, and that the best of human effort was put forth in the endeavor to save him. If she realizes that he had every aid in his extremity that he could have enjoyed at home, she consoles herself, knowing full well that death must come to all.

While failure of the Medical Corps in the prosecution of war leads to grave disaffection at home, it has an even more serious effect on the morale of the Army itself. The soldier may bear great discomfort in his quarters or on the march—he may even court death on the battlefield—but he expects the best of care, sympathetic and kindly attention, and competent medical skill when he is sick or wounded. In this he is fully within his rights. When these helps fail, he becomes discouraged and even the ardor of patriotism fails to sustain him. Individually he becomes morose and complaining and in the mass inefficient. An army may be decimated by the missiles of the enemy and not only retain its courage, but become contemptuous of danger and death; when wasted by disease, however, or when its wounded soldiers are neglected on the field, it ceases to be an efficient fighting machine.

The disastrous effects of inadequate protection of the health and life of the soldier are not confined to disaffection at home and demoralization in the ranks; for disaffection and demoralization, even when moderately felt, lead to a great reduction in the fighting strength and the combative spirit. All nations engaged in this war realize the vital importance of the medical service and have provided liberally for its equipment, personnel and maintenance. In the European armies, those of our allies and those of our enemies, medical officers have been given higher rank, invested with more authority and held to greater responsibility than has been known at any time in the past. The medical service has responded most satisfactorily to these advancements in honor, trust and duty, and with the exception of the shameful failure of line officers to heed the reasonable requests of the Medical Corps in the Mesopotamian campaign, there has been no cause for complaint.

So far as we have advanced in this war, there is no ground for serious complaint of or by the medical service. The President of the United States has recommended advanced rank and authority for medical officers, and at the present writing it seems that both houses of Congress are in sympathy with this request. Appropriations have been liberal and, best of all, the Medical Department has so guarded the health of our soldiers that no army, even one-tenth the size of ours, has ever been mobilized with sickness and death rates so low. Indeed, so far as we know, no army of raw troops has been assembled with the death rate calculated for all ages as low as that of the civilian population from which the soldiers have been drawn. In this country this is about 14 per thousand annually. In the Spanish-American War the death rate from disease greatly exceeded this figure, and ran above 20 per thousand. During the six winter months of 1917-1918, the annual death rate among all soldiers in this country was 9.1 per thousand. In many camps the death rate has been lower than in the same age group in those sections of the country from which the troops have come.

This, in brief, pictures the responsibility of the Medical Department of the Army. It is a responsibility which it gladly assumes. It may promise without a tinge of doubt that it will do its utmost to safeguard the morals, the health and the lives of our soldiers. As we write, there stands out the prominent fact that in this work the Medical Department has had as a leader a man who has the respect and confi-

dence of all the American people and of all the scientists of the world.

The public, and the medical profession especially, are fortunate in having at the head of the Medical Department of the Army, in the present crisis, Surgeon-General Gorgas. General Gorgas, renowned for his successful combat with yellow fever, malaria and septic pneumonia on the Canal Zone, the work for which he has received the highest recognition among scientists and the people in general, has had a bigger problem among the troops of our country during the past winter and has achieved the same degree of success. His reputation will now include not only his remarkable record on the Canal Zone, in Havana and in South Africa, but also his efforts and the results in our camps during the past winter. He has commanded in our first great battle of this war, a battle in which more than a million men were engaged against dangerous diseases; and he has won a great victory.

Few men carry greater responsibilities than does General Gorgas. General Pershing in France must have more, and still more, soldiers. Every unfit man who reaches him is a burden, not a help, and not only fails to add to his fighting strength but lessens it. Moreover, even the fit who reach France must be kept fit, and this burden also lies on the shoulders of General Gorgas. Still further, he must care for the wounded, return to the fighting line those whom medical and surgical skill can speedily restore, and bring back home those more seriously injured and so rehabilitate them that they may return to civil life in the greatest possible comfort and with the least possible dependence on the assistance of others. His tasks are numerous and varied, but in the execution of them he may utilize his long experience and the wisdom it has given him. Moreover, his tasks will be performed with the most sincere sympathy for those involved. In the accomplishment of these duties every specialty in preventive and restorative medicine must be used. That General Gorgas has recognized this to the fullest extent is shown by his calling to his assistance many eminent men in every branch of the healing art. Indeed, he did not have to call, for they came and asked if they could render assistance. The readiness with which the very cream of our profession have left the comforts and attractions of their homes, disregarded their own financial and professional interests, shut their eyes to what it may cost them and their families, and offered their services, is due not only to patriotism, but also to their respect for, and admiration of, General Gorgas. They have rendered him the highest tribute that has ever come to a member of our profession. With General Gorgas at the head, the medical profession stands ready to fill the medical quota for any number of millions of men the President of the United States may call to arms.

THE WAR SESSION OF THE ASSOCIATION IN CHICAGO

Last week THE JOURNAL contained the preliminary programs of the Scientific Assembly of the American Medical Association and other information regarding the meeting to be held next month, June 10-14. A glance through the programs of any of the sections shows that the scientific work will be up to the usual standard and that, in most of the sections, papers and discussions on the relation of the medical profession to the war will be a prominent feature.

The OPENING MEETING, at the Auditorium Theater, Tuesday evening, will provide the keynote of the Session. In addition to the address of the President—Dr. Bevan—an address will be given by Governor Lowden of Illinois, whose patriotic addresses have been conspicuous for their fervor and for the enthusiasm they arouse.

A GENERAL MEETING, to be held Wednesday night at Medinah Temple, will be addressed by medical military representatives of the allied nations and by American medical officers who have seen service. The spirit of this meeting will be such as to stimulate enthusiasm, to knit in closer bonds the medical services of the allied armies and to develop a cooperative sympathy between the civilian physician and the medical officer.

The PATRIOTIC MEETING Thursday night at the Auditorium Theater will include addresses by Rt. Rev. Charles P. Anderson, Bishop, Diocese of Chicago, Episcopal Church, Judge Charles S. Cutting and Prof. John M. Coulter of the University of Chicago.

In addition to these general meetings and the Sections, three special day meetings of importance will be held: The first, under the chairmanship of Lieut.-Col. Frank Billings, head of the Division of Reconstruction and Rehabilitation of the Surgeon-General's Office, with Major James Bordley, Jr., as vice chairman, and Major Harry Mock as secretary, also of the Surgeon-General's Office, will be held in the Auditorium Theater Thursday and will be devoted to various phases of reconstruction, rehabilitation and reeducation of wounded soldiers. The speakers will be representatives of the Surgeon-General's Office and of the Red Cross. Some of the talks will be illustrated by moving pictures representing actual experiences in the great work of rehabilitation already being done abroad.

Another extremely important meeting will be that on the medical aspects of the selective service. This will be under the chairmanship of Major Hubert Work, medical aide in the office of the Provost-Marshal General, with the assistance of Major Reuben Peterson, vice chairman, and Major John M. Dodson, secretary, state aides to the governors of Michigan and Illinois, respectively. The Provost-Marshal General's Office will be represented by Lieut.-Col. J. Easby Smith and probably by other officers. This meeting will be of the greatest practical value at the present time to the physicians engaged on the boards working under the selective service law. When it is realized that there are some nine thousand physicians engaged in the work of the medical advisory boards and a like number in the work of the local and district boards, the need and the possibilities of this meeting for good may be better realized.

There is also under consideration a meeting on medical education, over which Major H. D. Arnold, who is in charge of this division of the Surgeon-General's Office, will preside. At this meeting will be considered problems of medical colleges and hospitals, medical students and interns in relation to the war. The time and places of the meetings on selective service and education will be announced next week.

MILK-BORNE INFECTION

In late years there has been a disposition in some quarters to question the importance of milk as a factor in spreading disease. Certain writers recognize the possibility of milk-borne infection, but consider it almost negligible from a practical standpoint. The latest report of the Massachusetts Department of Health, just issued, contains some interesting data on epidemics in that state during 1916. From the summaries it appears that among the outbreaks of communicable disease investigated, a number were traced to milk. Twenty outbreaks of diphtheria are summarized, one of these definitely traced to milk. A second "subepidemic" is also mentioned in connection with a small outbreak due to direct contact. Out of eighteen epidemics of scarlet fever, one was caused by milk. Seven outbreaks of typhoid fever are described, four of which, comprising nearly nine tenths of the cases, were due to milk. One outbreak of septic sore throat occurred during 1916. This also was connected with a milk supply.

It is evident from these brief epidemic histories, given in the Massachusetts report, that even after the great improvements that have been effected through inspection and pasteurization, milk is by no means to be ignored as a source of communicable disease. With respect to typhoid in Massachusetts, milk is still one of the chief vehicles of dissemination. This corresponds with what is known about the frequent occurrence of milk-borne typhoid in New York City in the past few years. The majority of outbreaks of scarlet fever and diphtheria are due, as they have always been, to contact infection; but the fact that milk is found to be a source of trouble in every considerable group of epidemics studied shows that we are far from being able to neglect this possible mode of transmission of these two diseases.

If such a condition obtains in the state of Massachusetts, where health administration is highly developed, and if at least 5 per cent. of the outbreaks of scarlet fever and diphtheria and a much larger proportion of those of typhoid fever can be traced definitely to milk, milk-borne infection cannot be dismissed from the attention of public health officials. Since there is reason to believe that a large proportion of the milk in Massachusetts is pasteurized, it is significant that, nevertheless, this important source of infection should still figure prominently in the reports of epidemiologists. We have still a right to be very much on our guard against the milk-borne infection of typhoid fever, septic sore throat, diphtheria and scarlet fever.

THE DIGESTIBILITY OF FISH

The necessity of restricting the use of meat in its various forms in practically all parts of the world now involved in warfare has directed attention more forcibly than ever before to fish as sources of human food. The response has been prompt. Long known species of fish have attained a sudden popularity, and new ones have been brought into dietary prominence. Furthermore, fish have been made available either in fresh or preserved form where they were formerly obtained with difficulty. Friday no longer offers the only opportunity to eat fish. Every day is fish day nowadays.

Although the reputation of fish, as a class, for suitability as a food has come to be fairly satisfactory, their use is not always free from misgivings on the part of the consumers or those who are responsible for the selection of dietaries. One source of this unfavorable tradition is found in the records of real or alleged cases of poisoning by fish. Of course, fish are particularly susceptible to bacterial decay, so that they deteriorate more readily than many other forms of animal food unless they are properly cared for. Fish frozen while fresh will keep for months and even a year without loss of essential good qualities or change of their sanitary characteristics. It is no just criticism of fish to say that they may be harmful unless they are preserved in perfect form. This essential applies to many other food products. The spoiling of an occasional can of salmon must not be allowed to bring ill repute to fish as a class; rather the industry responsible for objectionable products should be penalized.

Another criticism sometimes aimed at fish, namely, the imputation of a less satisfactory digestibility than applies to some other flesh foods, is now rarely heard. All justification for it seems to have been removed by various studies of the digestibility of fish, the most recent ones being recorded by Holmes[1] at the Office of Home Economics in the United States Department of Agriculture. Fish in the form of "fish loaf" was served as the major part of a simple mixed diet, which also included potatoes, crackers, fruit, sugar, and tea or coffee. On an average, the subjects ate 448 gm. (about 1 pound) of Boston mackerel, 471 gm. of butterfish, 440 gm. of grayfish, or 355 gm. of salmon daily, which would indicate that in every case the fish was eaten with relish. Of the results, the dietary expert of the department has this to say: The average coefficients of digestibility for fish protein were: Boston mackerel, 93.1 per cent.; butterfish, 91.9 per cent.; grayfish, 92.8 per cent., and salmon, 93.2 per cent. In view of the close agreement, it would seem, from a dietetic standpoint, that the different fishes studied would supply protein in equally available form. The average coefficients of digestibility of the fish fats were found to be as follows: Boston mackerel, 95.2 per cent.; butterfish, 86.4 per cent.; grayfish, 94.3 per cent., and salmon, 93.7 per cent. As these figures show, the fats were well assimilated in the case of the mackerel, grayfish and salmon, which, according to the usual custom, are to be regarded as "fat fishes." Considering the experiments as a whole, the very complete utilization of the protein and fat supplied by the fishes studied offers additional experimental evidence that fish is a valuable food and that its extensive use in the dietary is especially desirable.

In the prescription of fish in dietotherapy, the controlling factor of choice has usually been the fat content, which in turn has been assumed to determine the digestibility. Certain fish, such as cod and carp, are sometimes assumed to be "coarser" than others. The current statements, so far as they have any foundation, are presumably based on empiric observations. In order, however, to furnish at least some scientific background to his empiricism or hypotheses, it is well for the dietitian to have some clue to the essential facts of composition. Atwater, who collected data regarding fifty or more varieties, showed that, on an average, fish contain more than 18 per cent. of protein, and about 4 per cent. of fat. Generalizing from these data, it has been pointed out that fish may be divided on the basis of their fat content into three classes: those with more than 5 per cent. of fat, such as shad, salmon, butterfish and herring; those containing from 2 to 5 per cent. of fat, such as whitefish, halibut and porgy, and those containing less than 2 per cent. of fat, such as bluefish, haddock and cod.

1. Holmes, A. D.: Experiments on the Digestibility of Fish, Bull. 649, U. S. Dept. Agriculture, 1918.

Were it not for the confusion that still seems to prevail among many persons — even among physicians, in whom it is less excusable — regarding the position of fish in the classes of foods, it would seem ridiculous to make reference to the matter here. As Holmes has summarized the facts: It is evident that fish, like meat, may contribute materially to the fat of the diet, particularly if the fatter varieties are eaten. On the basis of the protein that they supply they also resemble meat, and this is true, too, with respect to the ways in which they are used in the diet. Accordingly, fish should be considered as a protein food and classed with the meats.

Current Comment

THE WORK OF THE AMERICAN RED CROSS

One hundred million dollars seems a big amount of money; to most of us it is a big amount. But when one hundred million dollars has to supply the needs of whole peoples, stricken and bleeding, and suffering continuously from new blows, it is not such a large amount after all. That at least seems clear from the financial statement of the Red Cross War Fund, March 1, 1918, just issued by the American Red Cross. The total receipts credited to the Red Cross War Fund to March 1, 1918, were $106,158,143.59. Of this amount, $16,881,424.26 was refunded to Chapters. Of the balance, $77,721,918.22 had been appropriated up to the date named above. The balance available for appropriation was but $11,554,801.11. Some idea of the number and distribution of the beneficiaries of money that has been spent can be gathered from the following synopsis of the geographical distribution of the principal appropriations for relief work:

France	$30,936,103.04
Belgium	2,086,131.00
Italy	3,588,826.00
Russia	1,243,845.07
Roumania	2,676,368.76
Serbia	875,180.76
Great Britain	1,885,750.75
Foreign Countries other than those named above	3,576,300.00
United States	8,589,899.27

The range of relief work has been great in variety as in territorial extent. From an appropriation for a special front-line "rolling canteen" service to provide hot drinks for the United States troops in the trenches, appropriations range to appropriations for the relief of children in Poland, $200,000; for the relief of Belgian children, $436,004; for condensed milk for Russian babies, $531,000; and appropriations of $1,000,000 for a model Red Cross Health Center, another of $1,149,129.70 for the care of needy children and the prevention of infant mortality, and a third one of $2,147,327 for the treatment and prevention of tuberculosis, all in France. The entire financial statement is set forth in considerable detail, with explanatory text, the whole making a pamphlet of 127 printed pages. The field covered, however, is so large that

the statement presents but a bird's-eye view. But out of it all stand two essential facts—that the work being done is vital to the support of the war and to the rehabilitation of the race, and that more money is needed to carry it on.

THE LIVER AND HIPPURIC ACID FORMATION

The formation of hippuric acid from benzoic acid and glycocoll in the body, a reaction of not inconsiderable significance in the genesis of a compound that vies with creatinin in being, next to urea, the most abundant nitrogenous component of the urine, is usually assigned to the kidney. The statements in regard to the place of origin of the hippuric acid are derived in the main from the classic experiments of Schmiedeberg and Bunge, and date back to 1876. The synthesis of the compound by the living cells, a striking phenomenon for that period, was demonstrated by perfusion of the kidneys of dogs. Among the evidences adduced more recently to indicate that such combinations as the production of benzoyl glycoll (hippuric acid) are by no means necessarily limited in the way once assumed are experiments from the Nelson Morris Institute in Chicago. Lackner, Levinson and Morse[1] studied the behavior of benzoates when dogs were poisoned with hydrazin sulphate, a substance that has been clearly found to produce extensive hepatic lesions while leaving the kidneys untouched. It appears that under these conditions the output of hippuric acid is lessened. Hence the inference is justified that the liver participates in the synthesis of this compound. The Chicago investigators suggest that it may become possible to gage the functional capacity of the liver by observations on the extent to which hippuric acid can be synthesized in selected persons. In view of the paucity of methods for detecting obscure hepatic disease, the suggestion may be worthy of further serious consideration and clinical investigation.

THE FORT RILEY BAND AT THE CHICAGO SESSION

A distinctive feature of the war session of the Association in Chicago will be the presence of the band from the Medical Officers' Training Camp at Fort Riley, Kansas. This is a band of forty pieces made up of enlisted men from the Medical Department. The Surgeon-General has granted his permission to the band to spend the entire week in Chicago, and it will be a prominent feature in all of the special meetings during the week.

SOME JOURNAL

The Chicago Number of THE JOURNAL—that for last week—was one of the largest issues, considering size and number of copies printed and circulated, that we have thus far issued. It required 86,560 pounds, or more than 43 tons, of paper.

1. Lackner, E.; Levinson, A., and Morse, W.: Aspects of Hippuric Acid Conjugation, Jour. Biol. Chem., 1918, **33**, 16.

Association News

THE CHICAGO SESSION

Entertainment for Visiting Medical Officers

The Chicago Medical Society has appointed a committee under the chairmanship of Dr. W. T. Mefford, to maintain headquarters at the La Salle Hotel for the entertainment of commissioned medical officers of the Army and Navy during the annual session of the American Medical Association, to be held in Chicago, June 10 to 14.

WAR CONFERENCE OF SECRETARIES OF THE CONSTITUENT STATE ASSOCIATIONS OF THE AMERICAN MEDICAL ASSOCIATION

Held at the Headquarters of the American Medical Association, April 30, 1918

(*Concluded from page 1380*)

OHIO

Dr. E. O. Smith, Cincinnati, said: I have but little to say for the state of Ohio. We have furnished our quota as far as we can learn and taking into consideration the number of physicians from Ohio who are in the National Guard service, those that are doing contract work, and those who are doing Red Cross work, we are considerably over our quota. We are told that our quota of this new call will be 350; the old quota was about 1,200, and I am sure our state will provide its quota, and whatever means you may adopt to get these men will be adopted by us. It is not so much the idea of getting 5,000 or 7,000 men. I think there will be little trouble in getting these men. There has not been a great deal of difficulty in getting the 18,000 or 20,000 men now in the service; but the things to be considered are those that have been mentioned by a number of the speakers, and among them adaptability of the individual to the service. We must consider also the nature of his work and his service at home in the community. Men from medical universities should not be allowed to volunteer, as many of them do; then the teaching forces would not be crippled. Ohio will furnish her quota, I am sure; and whatever plan is adopted, through our state association we can put into execution any sort of plan that is finally decided on.

I should like to ask that the privileges of the floor be granted to Dr. McClellan of Ohio, who has assisted in this work, and he will tell you something about the whole system.

Dr. B. R. McClellan, Xenia, said: In June of last year, Ohio stood low in the list of states in the proportion of men offered to the Medical Reserve Corps, and the Council of Defense selected two of us to go from county to county to arouse and appeal for volunteers. I should like to say a word in emphasis of what Dr. Smith has said as to the need in the future of some systematic way of selecting as well as allowing volunteers for Army work. The volunteer system is robbing communities, industrial centers and educational centers of some men that are absolutely needed; and whatever may have been conditions in the past, as we go on this way and the large number of physicians increase in the corps, it must come to pass that the interests of the communities and of the profession will suffer. Therefore, as much as I was opposed to selective conscription in the beginning, I heartily favor some systematic way of selecting men.

OKLAHOMA

Dr. Horace Reed, Oklahoma City, said: We organized in 1916 at the request of the Council of National Defense. The organization effected was strictly an organization of the state association plus a few members whom we got on the Council of National Defense. We proceeded to do what we could without having any definite plan or system in view to follow, but failed to get ourselves in line. Oklahoma is only about 10 years old as a state, and between the passage of the act creating the state and the constitutional convention several months intervened. There are half a dozen examining boards in the state in the different territories. You know the Oklahoma Territory, which was formerly the Indian Territory, was made up of seven districts. In one particular district it was adver-

tised that any one who could furnish a voucher that he had been practicing medicine could go there and pay the sum of $50 and get a certificate to practice in Oklahoma. The consequence was that men came to Oklahoma by the hundreds and took advantage of that advertisement, and then an effort was made for the constitution to be retroactive and not pass a law which would undo that. We have a number of men credited in the list that could not be physicians and are not physicians. Another reason common to western states is that we have counties that are sparsely settled and physicians cannot be spared. Still another reason is that, in the beginning, this committee's work was largely in the hands of Dr. Clark, now Major Clark, who is in the service at Corpus Christi in a convalescent hospital. He was secretary of the Medical Association of the Southwest and volunteered to do the work in his office, and the committee was not conversant with the work. He elected Dr. Buxton as chairman of the committee. We are undertaking work which we believe will yield results. Dr. Buxton has sent out a questionnaire to one man in every community representing the county, usually the county secretary. This is done in cooperation with Dr. Thompson, secretary of the state association, and the committee. This questionnaire is to be mailed to every physician between the ages of 22 and 55 in Oklahoma, but it is unsigned.

OREGON

Dr. Clarence J. McCusker, Portland, said: Our committees in Oregon are very much the same as those in many of the other states. The same confusion as to sending out a questionnaire occurs as in the questionnaires sent out by the government and the American Medical Association, and also one from the state society, which was furnished us by the Western Department of War at San Francisco. The one sent out by Colonel Lynch gave the best results, and those who said they would accept service were commissioned, some of them having been assigned to a base hospital, and they have made a trip over the state, and this has given the best results we have had so far. With this confusion of different agencies in asking for more men, I fear we are going to find it much harder to get the next 7,000 men than it was the first 7,000, and the next 7,000 will be still harder. We feel the need of a central agency and a classification of the men, so that we can put our finger on them and have the necessary authority to call on them when needed.

PENNSYLVANIA

Dr. Cyrus Lee Stevens, Athens, said: The question now is not what we have done, or what we have not done, but what are we going to do. I believe that each one and all of us propose to go over the top. My friend from Michigan (Dr. Warnshuis) did not exactly steal my thunder, but he used my ammunition, and did it so much more effectively than I could, that I will forgive him for it. As has been intimated by the chairman, our state has sent the second largest number of physicians. We are not planning to rest on anything we may have done, but are ready to take hold and continue our work and be loyal to our government, loyal to our profession and loyal to the organization, whether it be national, state or county.

What has been accomplished in our state is due to several things. I might mention some of them—organization and public professional spirit. All of our county societies have agreed to remit the dues of those who are in the service or in the service of any of our allies. The state society has remitted the per capita assessment of all such. Two of our county societies have insisted on paying the state society per capita assessment. Most of the county societies, not all of them, have promised to protect, so far as they can, the practice of those who have gone or who may go. This, of course, cannot be carried out without failures here and there, without imperfection and without possibly some friction, possibly some misunderstanding. Some have agreed to turn over as high as 60 per cent., some 50 per cent., some 40 per cent., and some 33.3 per cent., and this is being carried out as well as the circumstances of such a delicate thing will permit. This plan has its imperfections. THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and our state journal have made constant appeals, which have gone a great way toward inducing physicians to make application to enter the Medical Reserve Corps. Another thing that has enabled us to do work has been the state committee of the Council of National Defense, Medical Section, which has done very thorough work in Pennsylvania, largely through the efforts of Dr. Codman and Major Jump and others. Like the rest, the department has made its mistakes, we have had more or less duplications, and we know more now than we did when we began; but the committee deserves credit for what has been accomplished. We know pretty well the standing of each man. We have found that some of our rural communities, and not a few of our industrial communities, are really suffering for the want of medical men, and these should be cared for in some way.

RHODE ISLAND

Dr. J. W. Leech, Providence, said: I do not believe there is a lack of patriotism on the part of the profession in our state, but rather in large part it is due to a failure of the government to take men into the service promptly after they receive their commissions. When a man gets a commission, puts his house in order, and is anxious to get into the service, if he has to wait six months it is discouraging to him, and this of itself cannot fail to be detrimental to eligible men who have not received a commission. In a community with a medical population of thirty-eight, eight have accepted commissions, and only four of them have been called to active service. The result is discouraging. I would be in favor of a selective draft to call for physicians at the age of 55 who are physically fit. This is the only efficient and democratic way of getting a full Medical Reserve Corps into the service.

SOUTH CAROLINA

Dr. Edgar A. Hines, Seneca, said: Our work in South Carolina thus far has been similar to that in many other states that have already reported. Much of the work has been done through the state committee of the Council of National Defense. I believe that the public speaking method and the questionnaire method, particularly the latter method, have resulted in as many men as we are going to get. Our state association had a military program in the last few days. We had a representative from the Surgeon-General's Office, and many of the points that we did not understand were cleared up by him. I believe that we are now ready for more intensive work, and I think that this must be personal work. I have doubt about the feasibility of a county committee in a state like ours. I believe that a central committee probably will do the best work. I am convinced that now it is personally a question of putting it up to each man.

TEXAS

Dr. I. C. Chase, Fort Worth, said: We have 278 counties in the state, many of which are officered only by physicians who are encouraged and induced to stay, not because of the prosperity but because of the needs of the ranch people; consequently many of them stay. It is safe to say, after carefully looking over the state, that only seventy counties in the state have a sufficient medical population to furnish doctors. For that reason, seventy of the 278 counties have to furnish the quota for the entire state. Major Jump, in a recent itinerary, after looking the matter over, thought we had done well. I am frank to say that we should not have done so well had it not been for the terrible drought throughout the state which drove many rural districts into a bread and butter situation. The general situation there has been handled in a rather disastrous manner, commencing with a canvass of the state by the committee on medical preparedness, officered by two commissioned officers who are placed at the head in turn of the State Council of National Defense for the collection of statistics, and in turn removed, so that in coming into affairs recently and looking the matter over, I found that one of the two things essential for success in the work, the first and most important part, has been neglected. For that reason, we are compelled to begin again and take a very careful survey of every physician in the seventy counties in the state. This has cost the last two times over a thousand dollars each, and will cost more than that and occupy probably sixty days. We have a committee of forty, each having two counties. We have a committee of five in each of the seventy counties, in all about 400 men, with an office force to handle the work. At the end of sixty days we hope to have detailed information as to the age, physical condition, wife and number of children, property and income, and the needs of the community, etc., to enable the committee thoroughly to canvass the state, and probably select a thousand men and then begin the pressure.

UTAH

Dr. W. Brown Ewing, Salt Lake City, said: We have had all the problems mentioned here. The first affliction wished on us was the State Council of Defense, which conveniently died last week. Major Jump was around in time to witness the embalming, and it has been buried since I left home. A

new one is to spring up, and perhaps we can get something out of it. The one we had did not know anything, or did not do anything. I have the names of fifty-seven men who are actually in the service, approximately 15 per cent. of the profession of the state. I have obtained these names in every conceivable way except from headquarters. Before coming to this conference I convened our state council, some of the members of which are the most practical men in the state, to formulate some plan that I could suggest here, and asked for by the conference in conjunction with the suggestions from the various states, taking the good from each one and leaving out the bad. The plan suggested is something like this: that the country be circularized by the American Medical Association, giving the man's name, age, state and address; the college and year of graduation; the children he has under 10 years of age; debts on the home or obligations that the man was compelled to meet; his ability to serve in the Army in a general way or in a partial capacity; the condition of the individual's health, whether good, fair or bad; the special work he may be engaged in or special work in which he may be the most apt; the industrial position that he at present occupies, whether he is connected with mines, smelters or railroads, and if called into service, whether it would be possible for him to supply a substitute. If these questionnaires are collected at headquarters in Chicago, the American Medical Association can make a classification, say Classes 1, 2, 3 and 4. Class 1 will include men under 40 years of age, in good health, a man who has a wife and no children, or a wife and one child, who has no debt on his home, or the debt can be arranged for so as to be carried without hardship on the family, who has no industrial position or no industrial community to serve. I do not see why a substitute should not be provided in such a case. Class 2 will include men who have some disability or more home ties that might prevent them from going. Then, after the classification has been made, the Surgeon-General of the Army can notify the communities that a thousand men are needed. The American Medical Association can start out from its classification—and if it keeps the classification up as it has done in the past, it will certainly be complete—notifying the Surgeon-General that it has suggested a certain number from each state, giving their names and then send to each man a notification that his name has been sent to the Surgeon-General's Office as being eligible for service. Then whatever pressure can be brought from headquarters should be brought directly to bear on the individual himself. I submit this plan simply as suggestive.

VERMONT

Dr. W. G. Ricker, St. Johnsbury, said: It seems to be necessary that we have a census, an inventory, of the medical and surgical strength of the country. In this voluntary service, such as the gentlemen from Utah, Ohio, New Jersey and New York have described and suggested, there are objections to undertaking a voluntary census, as there are many replies that will not be returned. It is the right of the Surgeon-General's Office, or the War Department, or the United States government, or the President, or whatever name you give to the authority, to know who we are and where we stand professionally, financially, socially and otherwise. Every suggestion that has been made in regard to the questionnaire today is valuable. Let that questionnaire be exhaustive; let it be prepared with care, and let it contain questions that will convey information. With the government in possession of the questionnaire, and the results of it carefully tabulated, when the demand for men comes and the government sends out a call that it wants a dozen men who are operative surgeons, or 800 men who need not have had operative surgical experience, that it needs twenty-five otologists capable of examining and caring for men in the Aviation Corps, or that it needs 100 ophthalmologists, and so on, it can get them. As I understood from reading the correspondence of Dr. Craig, the American Medical Association has made it a point of honor to assume fully the responsibility of supplying the Army with physicians and surgeons. Is that approximately correct?

Dr. Craig: The War Committee has undertaken to supply the requisite number.

Dr. Ricker: It is not incompatible as an obligation, if necessary, to put some of the officers of the American Medical Association in khaki and give directions. These are valuable details. This work can be carried out in absolute cooperation with the American Medical Association. As to the plan I have suggested, there is nothing absolutely compulsory about it except registration.

VIRGINIA

Dr. Paulus A. Irving, Farmville, said: We have 2,371 white and colored, allopaths and homeopaths. I should say of the 2,371 physicians in the state we have in our state medical society 1,800 or more. Three hundred and ninety-three of these are already enrolled in the Medical Reserve Corps—actively enrolled and seventy-one in the Navy, a total of 464. In addition to making this census, we have also made a survey of the profession in Virginia, and we have a complete record of every physician in the state. We have his name and address and age, whether married, single or widower; the number of children, their ages, and so on; whether his family is dependent on him; whether there is any physician in his community to take charge of his work and his practice in case he is called to the service; also the line of work that he is best qualified and adapted for, and whether he should be exempted; if so, the reasons therefor; the age and physical condition of the family dependents, etc. When we get to work on this survey we shall know exactly the number Virginia is called on to furnish, and letters will be addressed to these men by our committee for us, and we shall have a sufficient number of volunteers. Virginia, in the past, has furnished our government with its presidents. She stands ready to furnish the medical profession also.

WEST VIRGINIA

Dr. J. H. Anderson, Marytown, said: I am sorry to say that the organization with reference to securing these men for the National Army has not been what it should be. We have worked largely through the Committee of National Defense. When I received word from the secretary of the American Medical Association concerning this meeting, I prepared and sent out a little questionnaire of my own with reference to the state. I asked the number of physicians that have gone to war from the society and from every society in the state. I asked the number of physicians that have gone to war from the city in which the secretary of that society was located. I asked for the number remaining within the bounds of the society and the number of physicians in the bounds of the city. I asked what the civil population of the territory was, what the bounds of the society were, and what the civil population and bounds of the city were. I asked the men to whom I wrote, who were the secretaries of societies and councilors through the state, the number of men they had that could be spared. I asked these various secretaries whether they were in favor of conscription, and I received about fifty answers. It seems to be the opinion of a good many that the thing to do would be in some way to bring all of the members of the medical profession in our state within the ages thus designated by the government to a point where the government or the American Medical Association, or the people who know what the government wants, would be able to select whom they desire and the men best qualified for those places. I think if that were done, West Virginia will prove loyal and will come up to its quota, whatever you desire from us.

WISCONSIN

Dr. Rock Sleyster, Waupun, said: Shortly before the war, Wisconsin sent a man to the United States Senate who has given us a black eye. I want to assure you that he does not represent the sentiment of the state of Wisconsin. Of twenty-one states in the United States having 2,500 or more physicians, Wisconsin stands second only to Pennsylvania. The discussion today has been largely in the nature of an experience meeting. We have got together and told our troubles, and our troubles have been about the same in every section of the country. When all boiled down, it is about the sins of the volunteer system. We are taking men that ought not to go, and men that cannot be spared, the cream of the profession, men out of teaching positions and other places in professional life, where they should remain; and the slackers and fellows that ought to go are staying at home. It all comes back to this: How can we best bring about the spirit of selective conscription? It is probably impossible for us today to have selective conscription, but I think the results of this meeting should culminate in taking these ideals and putting them into action as soon as we can. I believe compulsory registration, as suggested by the secretary from Vermont, is the logical way of getting at it. The first thing to be done is to make a survey of every state in the Union. We have accomplished it in Wisconsin. Our questionnaire took in all of the information and points which have been enumerated by other questionnaires referred to today. We have a card index in my office which contains all this information of every man in the state. This ques-

tionnaire has been reenforced by a careful survey of every county society, and checking up the survey by councilors of the state medical society. I have repeatedly asked during the past six months several men to report fellows who could be spared, and, at the same time, place men who were poorly located in good positions, and it has been a good service in releasing men who were good material for the Army, without injury to the community which they served. With the information that we have gained of each physician of the state, I have worked out a rather elaborate classification showing the availability of each man, the things that are holding him back, and placing them in several classes regarding their availability. I shall be glad to submit this to whatever committee is appointed at this meeting. But first of all, a careful survey should be made to find out who can be spared and who should go, and bring proper force to get these men into the service.

TASK OF THE ORGANIZED MEDICAL PROFESSION

The Chairman introduced Dr. Arthur Dean Bevan, President-Elect of the Association, who said: I consider this meeting one of the most important that has ever been held under the auspices of the American Medical Association.

In the first place, we have got to find out what will probably be demanded of us. It is evident that this country is going to put in the field from 3,000,000 to 5,000,000 men. How does this affect the medical profession? We have in this country about 140,000 or 150,000 people who are licensed to practice medicine. The demands on that body will be probably somewhere between 30,000 to 40,000 before we are through with this job. Already about 21,000 are in the Army, and the Surgeon-General has called for another 5,000. The Surgeon-General of the Navy has called for 2,000 more men. In order to meet this demand it is evident that just what the American Medical Association is doing and what you gentlemen are doing is the first step, i. e., to ascertain the existing state of facts. This survey of the entire country, which will enable us to find out exactly how many medical men there are in each state and in each county, how many are male physicians, and how many have applied to join the service, and the percentages, will give us these necessary facts.

There are two problems with which we are confronted. The first problem is, we have got to secure the necessary number of medical men for the government. The second problem is not as important as the first, but it is a very important one, and it is that of securing the necessary number of men without crippling any locality or institution seriously. Both of these problems can be met by the organized profession of this country. I believe that each county and each medical school and hospital should furnish as a minimum 20 per cent. of its medical men, and as a maximum not more than 50 per cent.

I have been impressed with the fact that so far we have not organized this thing in the right way. We have had too many committees; there have been too many agencies attacking the problem, and it has not been handled in the best way. So far as the advisory committee of the Council of National Defense is concerned, we should remember that it is a body that is purely advisory; that it has no executive powers of any kind; that so far it has acted very largely through the county societies and state societies of the American Medical Association. This work should be done, as is contemplated, and as the Surgeon-General has requested, by the American Medical Association through its state and county societies. It is the job of the organized medical profession in this country. There is no other body of professional men in the world that is organized in such a representative way as the American Medical Association, and it is very fortunate that we have such an organization at this time to place at the disposal of the government.

I want to say that this country and the profession are very fortunate in having at the head of the Medical Department of the Army such a splendid figure as General Gorgas. I know, and you know, that he has the confidence of the entire medical profession; he has the confidence of the entire public, and I believe that we are in a position under the leadership of Surgeon-General Gorgas, and with the splendid organization we have in the American Medical Association, to take up this serious problem and carry it through in a splendid way so that in this great war the medical profession of this country will fully do its part.

MISSOURI

Dr. E. J. Goodwin, St. Louis, said: In listening to the remarks of the gentlemen from the different states, the thought has been forced on me stronger than ever, that there has been splendid work done, especially in the states where there was close cooperation with county societies. In Missouri the county societies have worked with the Council of National Defense and in the city of St. Louis and in Kansas City splendid work has been done recently because the county medical societies of these cities are cooperating fully and harmoniously with the auxiliary committee of the Council of National Defense, Medical Section. In St. Louis we are just completing a survey similar to that reported by Virginia and other states.

Dr. Goodwin then presented the report of the Committee on Resolutions. (See THE JOURNAL, May 4, 1918, p. 1306.)

Medical Mobilization and the War

Personnel of the Medical Department

For the week ending May 10, 1918, the personnel of the Medical Department of the Army included:

MEDICAL CORPS: 869, includinig 1 major-general, 65 colonels, 110 lieutenant-colonels, 298 majors, and 395 lientenants.

MEDICAL RESERVE CORPS: 18,833, including 1,281 majors, 4,629 captains and 12,923 lieutenants. On active duty: 16,690, including 1,205 majors, 4,277 captains and 11,208 lieutenants.

DENTAL CORPS: 209; DENTAL RESERVE CORPS: 5,254, of whom 1,446 are colonels, 246 majors, 150 captains and 790 lieutenants.

MEDICAL CORPS, NATIONAL ARMY: 115, including 3 brigadier-generals, 12 colonels, 92 lieutenant-colonels, and 8 majors.

DENTAL CORPS: 209; DENTAL RESERVE CORPS: 5,254, of whom 1,446 are on active duty; DENTAL CORPS, N. G.: 257; VETERINARY CORPS, 17; VETERINARY RESERVE CORPS: 1,442, of whom 748 are on active duty; VETERINARY CORPS, N. G.: 41; VETERINARY CORPS, N. A., 476; SANITARY CORPS, 1,031, and AMBULANCE SERVICE, 160, constitute the remainder of the commissioned personnel.

The DISCHARGES in all branches of the service to date are:

Causes	Number				
	M.R.C.	M.C.N.G.	D.C.N.G.	San.C.	D.R.C.
Physical disability	652	52	7	7	13
Inaptitude	245	20	0	2	5
Other branches	488	70	8	61	26
Resigned	112	33	4	7	8
Domestic troubles	59	0	0	1	0
Needed by community	48	0	0	0	0
Deaths	69	3	0	1	3
Dismissed	6	2	0	0	1
Duty completed	1	0	0	0	0
No reasons	14	0	0	0	1
	1,694	180	19	79	57

The Surgeon-General's Office in New Quarters

The office of the Surgeon-General of the Army has moved into new quarters. Until recently it has been located in the Mills Building, at the corner of Seventeenth Street and Pennsylvania Avenue, Northwest, and in other buildings in that vicinity. It is now located in an extensive new building, of a temporary character, erected especially for its use, in the immediate vicinity of the Surgeon-General's Library and the Army Medical Museum, on the west side of Seventh Street, Northwest, just south of B Street.

Cited for Bravery

Lieut. George F. Patten, M. R. C., New York, has received the *croix de guerre* for risking his life to relieve suffering and wounded men under fire.

Forty-two medical officers and two sections of the American Ambulance Service were cited in orders by the French, April 20, for extreme courage in evacuating wounded under fire.

Missing Medical Officer Reported as Prisoner

Lieut. John S. Abbott, St. Paul, who was reported missing in THE JOURNAL for May 4, is now included in the official list as a prisoner in Germany. Lieutenant Abbott was captured on March 21 while on duty with an advance dressing station of the British Expeditionary Forces.

Wounded, Missing and Captured

Lieut. Clement A. Fogarty, M. R. C., Philadelphia, was severely wounded, April 18, while on active duty in France. His first active service was performed during the battle of Cambrai.

The following medical officers are reported in recent dispatches as wounded: Capt. Ernest W. Bertner, Houston, Texas; Lieuts. Daniel E. Berney and James E. O'Toole, Scranton, Pa.; Arthur S. Bugbee, Medina, N. Y.; Leonidas B. Faulk, Monroe, La.; William Michel, Frostburg, Md.; Daniel H. Lawler, Baltimore; W. J. McGregor, Wilkinsburg, Pa.; William J. Miehe, St. Louis, Mo.; R. Allyn Moser, Omaha, Neb.

The following medical officers are reported as missing: Capt. John F. Hardesty, St. Louis; Lieuts. Harold A. Goodrich, St. Louis; Thomas B. Kern, Bethlehem, Pa.; Frank K. Miller, Madera, Pa., and Maurice S. Redmond, Pittsburgh.

The following medical officers are reported as prisoners in Germany: Capts. Francis J. K. Hill, M. R. C., Brooklyn; Charles W. Maxson, Baltimore, and Lieut. Robert H. Jeffrey, Uniontown, Pa.

Year Book of the Medical Officers' Training Camp at Fort Riley, Kansas

The medical officers at the Fort Riley training camp have gone into the publishing business, the result of which is a very pretentious volume entitled the "Year Book of the Medical Officers' Training Camp at Fort Riley." The book is dedicated to Major-Gen. W. C. Gorgas, "who above all others has been responsible for the high standing of the Medical Corps of the United States Army and who now represents to the people of the country the ideal of an officer and a gentleman." It contains three full-page portraits of Major-General Gorgas, Colonels Munson and Bispham.

A foreword explains the organization of the camp. This is followed by a biography of Colonel Bispham, an article on the object of the camp, the headquarters, staff and history of Fort Riley, a roster of instructors, rosters of the twenty-three companies of medical officers, the base hospital, the Nurse Corps, the evacuation hospitals, the field hospitals, the ambulance companies, the hospital train, sanitary detachments, gas defense corps and other organizations making up the personnel of the camp. An excellently illustrated article by Charles Spencer Williamson describes the Fort Riley Sanitary Laboratory, of which he is director. Other articles concern the camp exchange, the Army Y. M. C. A., work in the camp and the department of physical instruction and recreation. The final portion of the book is in a lighter vein and is illustrated with many excellent cartoons. The book gives a thorough insight into the work done at this training camp for medical officers. The book contains matters of interest and value to those who propose to enter the Medical Reserve Corps. It will also prove to be a source of enjoyable reminiscence to every officer who has had the privilege of attending the courses at Fort Riley.

The enterprise of these officers should be encouraged, especially since the proceeds of the sale of the book are to be devoted to a worthy cause, namely, to financing a band for the Medical Department, for which the government furnishes no funds. The price of the Year Book is $2.50. The book may be procured by addressing the Year Book, M. O. T. C., Fort Riley, Kansas.

IMPRESSIONS OF THE FRONT

[NOTE.—*The following is taken from a personal letter received by the Editor of* THE JOURNAL *from Dr. Frank Besley, Chicago, now in France:*]

"The first week in January I was ordered away from this unit (Base Hospital No. 12, Chicago) and appointed consultant in surgery A. E. F. and assigned to duty with one of the divisions which went into training in the line with a French corps. While there I had a very unique experience and an unusual opportunity of studying the French medical organization from the front line trenches back along the lines of communication to the hospitals in the rear. I was greatly impressed with the French methods of dealing with their surgical cases. The prevailing conditions permit them to secure definitive surgical treatment in their wounded cases earlier than this is possible with the British forces. The reason is that along most of the French front there has been much less active fighting, and it has been possible to push more permanent hospitals closer to the front and to maintain them there.

The fundamental question involved in the care of a wounded soldier is entirely dependent on the length of time that elapses following his wound before he reaches a place where there are adequate facilities for giving him the proper care. Obviously this is entirely dependent on the kind of warfare that is being carried on and it is trite to say that during the last month it would have been impossible to have secured anything like proper facilities for doing excision of wounds and primary suture.

However, the transportation arrangements of the British are ideal and it is wonderful the number of wounded men that they handle. . . . It is with pleasure that the Regular Army Corps and the Reserve Medical Corps are working in the most perfect harmony and cordial cooperation. Naturally this sort of team work leads to the best possible treatment for the wounded American soldier and I believe he is getting it and will continue to get it. . . .

The arrangements that have been made with the British authorities for the sending of American troops to serve with the British forces will necessitate the caring for the American soldiers, and arrangements have already been perfected for carrying this out. At the present time we have about 150 American soldiers in this hospital and I presume that in the near future it will be entirely filled with Americans. . . . . . THE JOURNALS continue to reach us regularly and they are a source of much satisfaction. The Red Cross Committee in Paris are furnishing us with copies of medical journals so that we are amply supplied."

"SECTS" NOT FOR MEDICAL SERVICE

Surgeon-General's Statement to the Adjutant-General of the Army

According to the *Army and Navy Register*, the Surgeon-General of the Army is opposed to legislation admitting osteopaths and other sects to the personnel of the Medical Corps. It quotes the following memorandum sent by Surgeon-General Gorgas to the Adjutant-General of the Army:

The time has long passed for exclusive adherence to any particular school of medical doctrine or practice, such as is implied by the degree of doctor of osteopathy, of chiropractic, of naturopathy, of mechanotherapy, of eclectic medicine, or any other "pathy." The terms "allopathy," "old school," etc., are equally objectionable. A scientifically educated physician is at liberty, and it is his duty, to employ any method of treatment whatever which he believes will benefit his patient. Homeopathic physicians have the degree of doctor of medicine, and some of their schools furnish an adequate medical education. They have for the most part abandoned their exclusive dogmas; as a class they are rapidly declining in numbers and are being merged in the general profession of medicine. They are eligible to qualify for the Medical Corps of the Army. While practice based on the peculiar tenets of osteopathy may be beneficial in suitable cases, the same or similar methods are open to the use of any physician. Osteopathic procedures applied to cases unsuited for them, as has often been done, result in serious harm. The only safeguard against such adherence to exclusive systems is a good medical education, such as is now demanded for admission to the Medical Corps.

It would be most objectionable to recognize any sort of medical practitioners in the Medical Department of the Army, be it osteopathic, allopathic, eclectic, chiropractic, or any other of the countless sects. Members of the regular profession of medicine, who now enter the Medical Corps, are merely educated physicians and do not constitute a sect in medicine, allopathic or otherwise. They are merely physicians free to follow any method of treatment which they may deem beneficial, in the same sense that a chemist is a chemist and a physician is a physician. It is argued that osteopathic physicians are trained in the principles of scientific medicine and are as well qualified as any physician to practice all branches of the profession. I have already indicated that, in my judgment, this is not true, but, if it were conceded, then the epithet "osteopathic," which sets these practitioners apart as a separate class or sect, could have no significance or value other than a commerical one, and this is not a principle which should be sanctioned in the constitution of the Medical Corps of the Army. . . . Whatever argument can be argued for the admission of osteopaths would apply equally to chiropractics and other medical sects. All cure their patients in certain cases; all do more harm than good when the balance between benefit and injury is struck.

The judge advocate general has advised the Secretary of War to the effect that, while the law does not specifically provide that a physician, in order to enter the Medical Corps, must be a doctor of medicine, unwritten practice does, and the secretary has decided in accordance with this opinion that

he will require that a man coming into the medical corps shall have the degree of M.D. I hope that this decision, which is in accord with all previous practice, will be maintained, and that the degree of D.O. will not be recognized as an equivalent, as is desired by the osteopathic physicians.

The admission of osteopathic physicians as such and without the degree of doctor of medicine to the Medical Corps would have the practically unanimous opposition of the medical profession of this country and of all allied countries, would be regarded, and justly so, as lowering the standards, educational and professional, of our Medical Corps, and would have a discouraging and detrimental effect on efforts to secure physicians for the corps both now and in the future, and on the general morale of the corps.

THE MEDICAL OFFICER'S OUTFIT

[NOTE.—*At the request of The Journal, Major Frederick R. Green, M. R. C., secretary of the Council on Health and Public Instruction of the American Medical Association, has prepared the following article for the purpose of enlightening the civilian physician on the first problem that confronts him when, after accepting his commission, he is ordered to active duty. Major Green has been in active service in the Medical Officers' Training Camp at Fort Riley, Kansas, since last August, and for some months has been instructor. Hence he is qualified to write a practical article based on his own experience and observations.*—ED.]

• Equipment of the Newly Commissioned Medical Officer

What outfit does an Army medical officer need, and how much must he spend for his equipment? This question is probably being asked today by thousands of physicians, either those who have already accepted commissions in the Medical Reserve Corps or those who are seriously considering doing so. The civilian doctor about to enter Army life reads with growing confusion of cots, bedding rolls, trench boots, folding buckets, basins and lanterns. He hesitates between two dilemmas, and either comes to camp without the things he needs or arrives burdened down with an immense amount of baggage which he soon finds is not necessary. He is told on the one hand that a complete outfit can be purchased for $200, and on the other that his equipment will cost him from $600 to $800. What does he really need, and where can he buy to the best advantage?

These questions cannot be answered by the presentation of any one list. The answer rather is that the Army officer, like the technical worker in civil life, accumulates his working outfit as he needs it. There is no more reason for the Army officer to purchase his entire equipment at once than there is for a hospital intern, just beginning practice, to purchase a complete surgical equipment before opening his office. The extent of the outfit needed depends on the duty to which an officer is ordered. Is he going to training camp for a three months' course? Is he going direct to a base hospital? Or is he to be sent abroad at once? In each case his necessary equipment will differ. But few men are now being sent abroad without army training, and many of the medical officers ordered to base hospitals direct from civilian life are now being ordered into the training camps for delayed training. So in the average case, we can assume that the newly commissioned doctor will be ordered to training camp where he will stay for one to three months, that he will then be sent to a base hospital or assigned to a field hospital ambulance company or evacuation hospital, and that at the end of two or three months more he will go to France with his organization or be sent with a replacement detachment.

But this is in the future. What the newly commissioned officer wants to know is, "What must I get before I leave home for the training camp?" The best advise to give him is, "Buy only what is actually necessary to get you to the training camp; then complete your equipment during your stay in camp by getting what you find you need from time to time by actual experience, and secure the additional equipment for overseas service when you know you are going." There are many reasons for this advice. An officer who attempts to buy his entire equipment before leaving home may be discharged for physical disability and find himself with an expensive equipment for which he has no use. He may be assigned to restricted service, in which case he will not need an overseas outfit. No matter what his assignment, it is much better for him to purchase his outfit as he needs it from personal experience rather than to attempt to buy it complete on some other man's advice.

Equipment, then, may be divided into five groups. These are:

1. What an officer needs when reporting for duty. This he must buy before he leaves home.
2. Things he already has or can bring from home.
3. What he will need in a training camp or base hospital. These things he can and should buy after he reaches his station.
4. Articles, ~~not~~ necessary, but which may be purchased if desired.
5. Additional articles for overseas service.

Taking these up in order, the first list would include:

FIRST LIST

	Minimum	Maximum
Uniform	$35.00	$75.00
Cap (regulation)	2.50	2.50
Pair shoes	4.50	18.00
Pair puttees	5.00	18.00
Set collar and rank insignia	2.00	2.00
Belt	.75	.75
Military locker trunk	6.12	15.00
Bedding roll	9.00	25.00
	$64.87	$156.25

SUGGESTIONS FOR PURCHASING

In purchasing a uniform, an officer has the same liberty that a civilian has in buying his clothes. He can get them ready made or have them made to order. He can get a cheap suit or an expensive one. Officers' uniforms are made of serge, wool or whip cord. They range in price from $35 for a ready made serge or wool uniform to $75 or $80 for a whip cord uniform made to order by a military tailor. A good uniform is a necessity so long as one remains in the service. It is advisable to get as good a uniform as one can afford. Wool is too hot for summer. Whip cord wears better than any other fabric, but is heavy and stiff. Probably the best thing for the average man is to get as good a serge uniform as he can afford. Ready made uniforms can be secured from dealers in any large city as Marshall Field, Mandel Brothers and the Hub, in Chicago, or Wanamaker in Philadelphia, or can be ordered by local clothiers from Hart, Schaffner and Marx, Kuppenheimer or other well known makers of ready made clothing. A regulation cap can be obtained from any dealer. It is worn only for dress, the field hat being worn in camp. Shoes cost from $4.50 in calf to $15 or $18 in officers' shell cordovan dress shoes. In whatever grade, they should be on the regulation Munson last. This is the best shoe ever made. Already shoemakers are beginning to modify this last in order to approximate the conventional narrow toed shoe. Insist on getting the original Munson last. Don't waste money on high priced cordovan dress shoes. You don't need them and you won't wear them. Get the regulation calfskin shoe and save your money for other things. Be sure the shoe fits, especially that it is wide enough. The same advice can be given about puttees. Prices range from $5 for cowhide to $18 for shell cordovan. Get a good pair of cowhide puttees, not too heavy, and be sure they fit, especially that they are not too long in the heel or under the knee. Let those who will pay $15 or $18 for pigskin or cordovan. Five or six dollars is enough, especially for camp wear. The belt should be the regulation webbing belt. Insignia include two U. S. R. and two caducei in bronze for the coat collar and two rank insignia for the shoulders. If you want to spend money, you can get sterling silver bars, but as you are going to be promoted soon, you might as well save your money and get white metal at 40 cents a pair. A regulation military locker trunk will cost from $6.12 to $15, depending on quality. Have your initials or name marked on each end and your name with "M. R. C., U. S. A.," on the top. A bedding roll is a canvas case for your mattress and bedding.

It is also the catchall in which is packed everything that doesn't go in the trunk. It comes in dark brown or khaki colored canvas, with webbing straps. Prices range from $9 to $25. The $9 roll is just as good as any, but the straps are generally too small and too short. Get a pair of extra long webbing straps or two long trunk straps. Have your name stenciled on the outside of the bedding roll. What goes in the roll and how it should be packed will be considered later.

This is all that will be needed for the man ordered to report to a training camp or base hospital. It will enable him to travel to his post and report in presentable and proper condition without taking time or going to the expense of buying a lot of things that he won't need at all or that he won't need for a long time.

ADDITIONAL ARTICLES BROUGHT FROM HOME

In addition to these purchased articles, what does one need to bring from home? This is the second list. It comprises: pajamas; blankets; comfort or quilt; sheets, narrow, three pairs; pillow cases, three; slippers; bathrobe; tennis shoes; underwear; socks; handkerchiefs; toilet cases; white shirts; white collars; black tie; bath towels; blanket coat; coat hangers. Blankets for temporary use can usually be drawn from the quartermaster on memo receipt. Each officer should have at least two O. D. (olive drab) wool blankets for use in camp. For foreign service he is required to have four. If you can get the regulation U. S. O. D. wool blanket, get at least two; better three or four. If not, bring a pair of heavy blankets, preferably dark colored. Hudson Bay Company blankets are excellent if one can get them, in dark blue or gray. One or two cotton comforts or quilts add greatly to one's comfort in sleeping. Two blankets and a comfort are warmer than four blankets. Sheets are optional and depend entirely on one's personal preferences. Some officers prefer sheets and pillow cases. Others sleep between blankets. If you want sheets, bring three or four pairs of narrow ones for an Army cot. An ordinary sheet, split lengthwise down the middle and hemmed, will make a pair of about the right width. Three or four pillow cases may also be enough. Slippers may be leather or felt, but should be soft and easy. Bring an old bathrobe to wear to the latrine when bathing. If you have an old pair of rubber-soled tennis or gymnasium shoes, slip them into your trunk. They will give you much comfort in going to the bath house in wet weather and will keep your slippers dry. Underwear depends on personal preferences; wool, lisle or cotton, in two-piece, union or B. V. D., as desired. Bring plenty of it, whatever it is, for frequent changes are necessary. As to socks, probably the controversy will never be settled between those who like wool and those who don't. Some won't wear woolen socks; some won't wear anything else. *De gustibus non est disputandum.* Bring what you like, at least six pairs, and twelve are better. Handkerchiefs, at least twelve or better twenty-four, not too fine; some of these can be khaki colored. Some kind of toilet case is advisable; otherwise, toilet articles are scattered and lost. The Fitall cases in leather or canvas in varied sizes are excellent. One or two white shirts beside the one worn to report in and half a dozen white collars may be brought for special occasions. Leave shirt studs, valuable cuff buttons, watch chains, etc., at home; also valuable watches. Plain cuff buttons, a leather watch guard and a cheap but accurate watch are best. A black, narrow four-in-hand is the only tie worn. Face and hand towels are soon discarded. A blanket coat large, heavy bath towels serve all purposes. A blanket coat for evening wear in quarters is very comfortable. Half a dozen clothes hangers in wood or wire can be brought from home or bought at a 5 and 10-cent store. A stout and roomy laundry bag with a gathering string at the top and loops with which to hang it is a great convenience. All articles should be plainly marked. In a company barracks with a hundred men, *meum* is often very hard to distinguish from *teum.* Of course, all these articles can be purchased at the camp exchange or at civilian stores after reaching camp, if desired.

PACKING

Now as to packing: Spread your bedding roll flat on the floor; turn out the flaps, head, foot and sides; fold blankets, comforts, quilts, sheets, etc., as nearly as possible the size of the bedding roll; lay in top of your bedding, as evenly as possible, your bath robe, blanket coat and anything else that you haven't room for in your trunk; fold the head and foot flaps, then the side flaps; tie the strings that hold the flaps in place; if you have a cot, place it, tightly strapped, across the head of the bedding roll; begin at the head and fold the roll over as tightly as possible; strap far enough from the ends to prevent slipping off; check the roll as baggage with your trunk.

TRAVEL ORDERS AND REPORTING FOR DUTY

As to procedure when you get your orders, "travel orders" always come from the Adjutant-General's Office and not from the Surgeon-General or from a bureau chief. Telegrams or letters from any one else than the Adjutant-General are preparatory, but they are not travel orders. Your telegram should read:

WASHINGTON, D. C., March 1, 1918.

FIRST LIEUT. JOHN C. SMITH,
Jonesville, Wis.:

You are assigned active service. Proceed to Fort Riley, Kan., and report, April 15, Commanding Officer, M. O. T. C., for course of instruction. Travel directed necessary in military service. McCAIN.

Several precautions should be exercised regarding this telegram. Do not accept it over the telephone. Insist on the local telegraph office giving you a written copy. When you receive it, be sure your name is correctly spelled and that the name of the receiving office is on the telegram. This telegram is worth money to you. Without it you cannot collect mileage. If your name is misspelled or if the town where you receive it does not appear, it is worthless. See that it is correct. Having received it, do not throw it into the wastebasket or leave it on your desk. Don't put it in the pocket of your civilian coat or lock it up in your trunk. Put it in your pocketbook with your money, and don't lose it. If you want transportation, take your orders to the nearest quartermaster or recruiting officer. He will issue a transportation certificate and stamp his notation on the back of your orders. Exchange the transportation certificate at the railroad ticket office for a ticket. Don't let the ticket agent take up your telegram.

When you get to your destination, ask any officer or noncom for the Headquarters Ambulance. There is always an ambulance to meet each train for the convenience of incoming officers. Be sure to go to the place your orders direct you to report to. If ordered to report to the Commanding Officer of a Base Hospital, don't report at Fort Headquarters. If ordered to report to the Commanding Officer, M. O. T. C., don't report at the Base Hospital. Go where you are told. When you get to Headquarters, ask for the Adjutant and hand him your orders. He will enroll you and assign you to quarters or tell you where to report.

ADDITIONAL EQUIPMENT FOR TRAINING CAMP

If ordered to a training camp, what additional equipment will you need?

ADDITIONAL EQUIPMENT FOR TRAINING CAMP

	Minimum	Maximum
Extra serge suit	$35.00	$50.00
Two pairs Munson shoes	9.00	16.00
Three or four flannel O. D. shirts	13.50	32.00
Field hat	2.50	6.00
Hat cord	1.50	1.50
Khaki suit	12.50	18.00
Three pairs khaki breeches	10.50	18.00
Sweater	7.50	10.00
Rain coat	2.60	50.00
Two O. D. blankets	6.12	6.12
Extra belt	.75	.75
	$101.47	$208.37

The extra serge suit is needed for a working suit, as long as serge is worn. Three pairs of shoes worn alternately will last five times as long as one pair worn continuously. At least three flannel shirts are needed. Four are better. They cost from $4.50 to $8 each. Get coat shirts of medium weight. The field hat is worn exclusively in camp. You can pay $2.50 for a regulation hat or $6 for a Stetson or Dunlap. Have your hat cord sewed on. Get an officer's hat cord, black and gold. Don't make the mistake the rooky did who came to camp wearing a General Officer's gold cord. He said that his girl gave him the handsomest one she could find as a Christmas present and he didn't like to hurt her feelings by not

wearing it. Khaki is worn during warm weather. Get one blouse and three or four pairs of breeches. Be sure the breeches have hip pockets. Some haven't. Those that button at the knee are better than those that lace. Get a sweater, O. D. wool, to wear evenings. A raincoat is more necessary this time of year than any other. You can get a slicker, a poncho or a regulation raincoat for $2.60 from the Quartermaster, or you can pay $50 for an O. D. cravenette mackintosh, belted like a trench coat and lined with leather. There are many grades between. Have your rank stripes put on the sleeves. Two O. D. blankets will cost $3.06 each. An extra belt is a convenience. This additional equipment costs $101.47 minimum and $208.37 maximum. It can all be bought after reaching camp, either from the Q. M. at the camp exchange or at the civilian stores near camp. The assortment, quality and prices will be better than those in the local stores to which the average man will have access at home.

OPTIONAL PURCHASES

There are many things that are not necessary, that may be bought or not, as desired. These are:

OPTIONAL PURCHASES

	Minimum	Maximum
Mackinaw	$18.00	$25.00
Overcoat	35.00	75.00
Dress boots	18.00	35.00
Field boots	16.00	25.00
Rubber boots (hip)	3.50	12.00
O. D. wool uniform	35.00	50.00
Cot	3.50	4.50
Mattress	3.50	10.00
Chair	1.50	4.50
	$134.00	$241.00

Mackinaws are short coats originally worn by lumberjacks in the northern woods. They are short overcoats, belted like a Norfolk jacket. They are not regulation but are worn in camp in place of the long, heavy, cumbersome dress overcoat. The regulation overcoat is expensive and seldom worn. It is not worn abroad. Dress boots are calf, Russia or cordovan. Field boots are for rougher wear and lace over the instep or all the way up. Rubber boots are a necessity in camp in the spring. Wool uniforms are all right in winter, but are too heavy at any other time. They are required for foreign service. Whether you bring a cot or not, you will sooner or later want your own. The Gold Medal cot is used almost exclusively. The Medical Department special cot made by the company is higher, wider, stronger and covered with heavier duck than the ordinary cot. One costs $3.50; the other, $4.50. The larger cot is easily worth the difference in price. Every man will sooner or later want a chair of his own. The Gold Medal chairs are also best. They come in four or five patterns, from $1.50 for the camp stool, to $4.50 for a really comfortable folding armchair. Mattresses may be obtained in silk floss, cotton, felt or hair. The minimum cost of these optional luxuries is $134; maximum, $241.

OVERSEAS EQUIPMENT

Overseas service calls for some additional equipment. It includes: basin canvas; bucket canvas; O. D. wool uniform; compass; cup; field glasses; flashlight; gloves, leather and woolen; folding lantern; trench coat; overshoes; long woolen stockings; folding bathtub. It is not necessary to go into details in overseas equipment. Each man is given ample notice before going abroad and has plenty of time to complete the equipment. All needed articles can be secured at the Depot Q. M., at the port of embarkation. The cost of additional equipment will average about $100.

Summing up, the expense would be:

TOTAL EXPENSE OF EQUIPMENT

	Minimum	Maximum
Cost of equipment needed to report	$64.87	$156.25
Needed for training camp	101.47	208.37
Additional articles which are optional	134.00	241.00
Additional overseas equipment	100.00	100.00
	$400.34	$705.62

This expense, by getting an equipment as needed, can be distributed over two or three months, possibly more. No attempt has been made to attach any value to the articles to be brought from home, as these are already in the possession of most men, and their quality and cost varies with individual taste.

LIVING EXPENSES IN CAMP

What expenses does one have in camp? Very little, after one's outfit is completed. Mess bills are generally $1 a day, or $30 a month. Soap, matches, tobacco, cigars or cigarets, newspapers, postage stamps, stationery, all depend on individual taste as at home. An occasional trip to town with a dinner and a moving picture show is not very expensive dissipation, especially to those used to city prices. Laundry at the Post Laundry is cheap and generally good. Probably $50 or $55 a month would cover all necessary expenses, including mess bills.

Allowance must be made for difference in prices in different localities as well as individual taste. The articles recommended and the prices quoted above are based on nine months' experience in training camp, three as a student officer and six as an instructor. They are not intended to be dogmatic, but merely as suggestive opinions for the guidance and help of those about to enter the service.

NEWS OF THE CANTONMENTS

Thirty-First Division, Camp Wheeler, Macon, Ga.

MAY 3, 1918.

Camp Wheeler has gone through another epidemic of pneumonia, this time a small but virulent one. The epidemic of influenza, noted in April, was followed by a considerable number of cases of pneumonia: mostly of the streptococcus type—*Streptococcus hemolyticus*. There were cases of the old time "congestion of the lungs" with rapid consolidation, and in some cases death within twenty-four hours. Serum and empyema were also common, adding to the mortality.

The influenza is now past and the pneumonia almost past. During March there were only a few cases weekly, but in April the number increased to as many as sixteen in one day, and totaled ninety-five cases. Our sick report jumped to 8.4 per cent., the highest of any National Guard Division, but is now below 4 per cent. again. It is hoped that this is the last serious epidemic, though measles and mumps are expected with the new draft men. The continued cold, wet weather was favorable to influenza and pneumonia.

NEW RECRUITS

The whole division is deeply interested in the expected arrival of 10,000 recruits—select men. By some strange whirl of the wheels, these men come to the Dixie Division from Illinois and Michigan. No one is displeased, however, by that arrangement. It is expected that they will have less measles and mumps, and, above all, less pneumonia than the men from the Southern states. They will be held in a detention camp until examined and various vaccinations completed. This draft will fill the division to war strength. The arrival of a new general and men to fill up the organizations, together with completion of equipment, lead many to think that the division may at last actually cross the pond.

PERSONAL

Major Gaylord, M. R. C., is to be surgeon of the detention camp, with Major Pendleton as chief examiner, and some forty other medical officers as assistants.——Lieutenant-Colonel Weed, sanitary inspector, has arrived for a sanitary inspection of the camp.

Lincoln Division (Eighty-Fourth), Camp Zachary Taylor, Louisville, Ky.

MAY 13, 1918.

The convalescing infirmary of the base hospital is nearing completion, and some of the twelve two-story barracks have been occupied. When in full operation the infirmary will be a reclamation and reconstruction camp as well as a place for treatment of convalescing patients. With a view of conserving man power, selected men found to have slight physical defects will go through a course of training to build them up and make them fit for active military service.

PERSONAL

Capt. Lee L. Ernstberger of Louisville, assistant to the camp surgeon, Lieut.-Col. John H. Allen, is detailed, in addition to his other duties, as instructor in military hygiene and

first aid training at the School for Chaplains, vice Capt. David N. Roberg, who was relieved.——Lieut. Charles B. Matthews, formerly a physical director of Lexington, Ky., who has charge of giving medical attention to the families of officers and enlisted men of Camp Taylor living in Louisville, has been promoted to captain.

SCHOOL FOR CONVALESCENTS

A circular memorandum form the office of the Adjutant-General of the Army, received here, directs that all patients sent before the surgeon to be examined with a view to discharging them on surgeon's certificate of disability, and who come under the heading of border line cases, will not be discharged but their service records will be indorsed "fit for domestic service only."

All such doubtful cases covering both mental and physical defects, will be held to service in the United States for such work as they may be capable of performing. With the adoption of this method of conserving the man power of the nation announcement is made that arrangements are being completed for the opening of the convalescing infirmary at the base hospital, one of the sections of which is a reconstruction plant to reclaim patients having slight defects that might otherwise disqualify them from active military service.

MEDICAL STAFF AIDS RECRUITING

Lieut.-Col. John H. Allen, division surgeon, and a dozen other medical officers left Camp Zachary Taylor to visit sixteen towns in Indiana in connection with the efforts to secure additional medical officers for the Army. They will address meetings arranged by the Indiana State Medical Association. The medical association of the Hoosier state recently requested Major-Gen. Harry C. Hale, commander of the Lincoln Division, to assign medical officers to address meetings it would arrange.

General Hale granted leave of absence of two days to medical officers who volunteered to go out on their mission at their own expense. Sunday F. E. Rashig, acting executive secretary of the Indiana State Medical Association, came here to confer with Lieut.-Col. John H. Allen and final plans for the trips were made. The itineraries follow: Corydon, Capt. John J. Moren of Base Hospital Unit No. 40; Crawfordsville, Lieut. John Irwin, base hospital; Bluffton, Capt. Roy B. Storms, 159th Depot Brigade; Richmond, Capt. H. J. Ware, 159th Depot Brigade; Marion, Major Granville S. Hanes, Base Hospital Unit No. 40; Connersville and Rushville, Capt. Cecil I. Wayman, 159th Depot Brigade; Newcastle, Capt. Paul B. Coble, base hospital; Greenfield, Lieut. David C. Morton, contract surgeon; Linton and Loogootee, Lieut. Col. C. J. Imperatori, 309th Sanitary Train; Mount Vernon and Versailles, Capt. Miles F. Daubenheyer, 159th Depot Brigade; Logansport, Capt. David N. Roberg, division surgeon's office; Columbus, Capt. Michael R. Larkin, base hospital; Indianapolis, Lieut.-Col. John H. Allen, division surgeon.

REJECTIONS

To date the number of rejections at this cantonment for physical disabilities is approximately 3,000. However, it is likely that some men who were discharged at the outset and who had but minor defects may be recalled and accepted for limited service.

Only those found to be entirely unfit for any service are now discharged from the National Army. Borderline cases now coming to the attention of the medical officers here are classified "for domestic service only" on their records. They are kept under observation and given scientific medical treatment in an effort to upbuild the weak parts. The reconstruction method was put into operation Monday at the convalescing infirmary at the base hospital.

CLEAN UP AT WEST POINT

Lieutenant Sandidge of the United States Public Health Service has appointed Dr. D. C. Roberts assistant surgeon for the service in West Point. Together they are planning a complete clean up of the town. Streets, fountains, even those sacred precincts, family kitchens, every nook and every corner are to come under their wary eyes. The main street of West Point will have their first attention, it being their purpose to have the street cleaned immediately and its dust laid for the summer.

SURGEON-GENERAL BLUE HERE

Surg.-Gen. Rupert Blue, of the United States Public Health Service, spent Friday at the cantonment, accompanied by Major L. D. Frick, who is stationed at Louisville. He conferred with Lieut.-Col. John H. Allen, division surgeon, and Lieut.-Col. Will L. Pyles, commander of the base hospital, regarding health conditions here and in the territory surrounding the reservation. The department which General Blue heads is especially responsible for health conditions in a 5-mile radius of military camps.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

From Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ending May 3, 1918

1. ANNUAL ADMISSION RATE PER 1,000 (Disease only):
   - All Troops 1,109.7
   - National Guard Camps ..... 994.
   - National Army Camps 1,222.4
   - Regular Army 1,054.1
2. NONEFFECTIVE RATE PER 1,000 ON DAY OF REPORT:
   - All Troops 39.1
   - National Guard Camps 35.6
   - National Army Camps 43.8
   - Regular Army 37.4
3. ANNUAL DEATH RATE PER 1,000 (disease only):
   - All Troops 6.3
   - National Guard Camps 3.6
   - National Army Camps 6.3
   - Regular Army 8.19

NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING MAY 3, 1918

Camps	Pneumonia	Dysentery	Malaria	Venereal		Measles	Meningitis	Scarlet Fever	Deaths	Annual Admission Rate per 1,000 (Disease Only)	Noneffective per 1,000
				Total	New infections						
Wadsworth	6	..	..	9	7	2	1	..	4	223.6	12.9
Hancock	1	..	..	53	16	1	..	..	1	514.4	34.5
McClellan	4	..	1	106	12	2	..	..	2	818.8	28.1
Wheeler	15	..	22	24	1	...	..	..	4	953.7	39.0
Sevier	8	..	5	120	53	20	2	3	1	770.6	29.4
Logan	8	..	2	193	117	18	1	5	1	1,976.2	41.3
Cody	6	..	..	2	1	...	..	..	1	367.8	22.0
Doniphan	2	..	..	16	0	...	..	..	0	1,901.9	57.3
Bowie	7	..	3	47	43	1	..	..	2	1,125.7	41.2
Sheridan	6	..	..	19	15	...	..	1	3	420.2	25.2
Shelby	3	2	..	7	0	2	..	..	0	845.6	42.4
Beauregard	21	..	21	44	4	3	..	..	2	1,634.7	63.2
Kearny	9	..	..	5	0	1	..	..	1	1,706.3	38.3
Devens	19	..	..	21	4	5	..	4	3	704.4	38.5
Upton	16	..	..	324	16	10	..	4	3	1,172.1	39.2
Dix	5	..	..	88	17	16	..	3	1	873.2	31.2
Meade	4	..	..	9	2	6	..	..	2	683.5	26.5
Lee	5	..	1	106	8	16	1	..	4	879.4	44.8
Jackson	13	1	7	231	7	17	2	1	3	1,355.9	46.0
Gordon	3	..	1	110	7	44	4	1	8	1,390.3	47.1
Sherman	10	..	1	103	4	25	..	9	6	1,159.6	40.3
Taylor	7	..	..	137	15	36	2	1	1	1,393.9	61.9
Custer	10	..	..	138	6	8	..	10	5	847.6	32.1
Grant	8	..	..	10	0	23	1	5	3	635.6	27.5
Pike	5	2	..	66	8	32	5	1	4	1,848.6	62.6
Dodge	27	..	..	83	0	24	2	8	12	1,871.9	84.9
Funston	31	..	..	115	14	6	2	3	9	1,432.3	52.8
Travis	6	1	4	67	3	7	..	1	2	2,097.7	40.5
Lewis	5	..	1	475	11	15	1	12	2	1,617.6	43.0
Northeastern Dept.	...	..	..	10	3	5	..	5	0	991.8	32.2
Eastern Dept.	8	..	1	24	7	13	..	1	7	762.1	27.8
Southeastern Dept.	2	..	4	38	24	14	..	1	2	812.7	44.8
Central Dept.	2	..	..	25	11	5	..	3	4	1,285.1	46.6
Southern Dept.	21	2	2	75	39	9	..	17	12	1,110.8	44.8
Western Dept.	2	..	..	30	15	4	..	1	3	895.7	27.4
Aviation S. C.	22	3	4	97	0	26	3	15	18	1,126.7	34.2
Camp Greene	...	2	..	39	0	1	..	..	1	523.7	22.8
Camp Fremont	2	..	2	17	3	9	..	1	1	757.7	42.1
El Paso	...	..	..	11	11	2	..	1	0	628.6	3.1
Columbus Bks.	1	..	..	26	3	2	..	..	1	1,077.6	39.1
Jefferson Bks.	14	..	..	30	2	5	..	4	3	2,303.7	100.7
Fort Logan	7	..	..	...	...	1	..	3	6	2,242.7	103.0
Fort McDowell	...	..	1	17	1	1	..	..	0	1,508.8	46.8
Fort Sloeum	...	..	..	14	0	1	..	..	2	1,265.0	45.1
Fort Thomas	1	..	1	3	0	2	..	..	0	1,165.9	45.4
D. B. Alcatraz	...	..	..	1	0	...	..	..	0	3,199.9	
D. B. Fort Leavenworth	...	..	..	2	0	...	1	..	1	1,034.8	35.7
A. A. Humphreys	4	..	..	4	0	5	..	..	0	434.6	7.0
J. E. Johnston	3	..	..	24	18	11	1	1	0	1,359.9	38.8
Hoboken, N. J.	24	..	1	147	0	31	..	12	8	907.1	35.6
Camp Stuart	16	..	..	196	8	12	2	1	7	2,006.7	63.3
West Point, N. Y.	...	..	..	...	...	...	..	..	0	610.9	32.2
Edgewood - Aberdeen	...	..	..	...	...	1	..	..	0	784.5	25.1
Provisional Depot for Corps and Army Troops	6	..	..	12	0	1	..	..	2	945.8	40.2
Camp Holabird	...	..	..	1	0	...	..	..	0	661.3	46.2
Camp Raritan	...	..	..	2	0	...	..	..	0	742.8	28.6
Springfield Armory	...	..	..	...	...	...	..	..	..	.....	....
Natl. Guard Depts.	1	..	..	9	7	5	..	2	1		
Natl. Army Depts.	11	1	2	69	24	68	4	7	7		
Total	417	14	67	3,561	567	574	36	147	176	1,109.7	39.1

ANNUAL RATE PER 1,000 FOR SPECIAL DISEASES

	All Troops in U. S., Week Ending May 3, 1918	Regulars in U. S., Week Ending May 3, 1918	National Guard, All Camps, Week Ending May 3, 1918	National Army, All Camps, Week Ending May 3, 1918	Expeditionary Forces, Week Ending April 26, 1918
Pneumonia	16.6	17.3	17.2	16.7	28.4
Dysentery	0.5	0.9	0.3	0.38	0.1
Malaria	2.6	2.0	6.1	1.4	1.3
Venereal	145.8	108.2	115.9	200.3	40.5
Paratyphoid	0.0	0.0	0.0	0.0	0.0
Typhoid	0.04	0.0	0.17	0.0	0.0
Measles	22.9	20.6	9.0	27.9	6.2
Meningitis	1.4	0.9	0.7	2.0	2.3
Scarlet fever	5.8	8.4	1.6	6.0	9.7

ORDERS TO OFFICERS OF THE MEDICAL CORPS AND OF THE MEDICAL CORPS OF THE NATIONAL ARMY

To Camp Forrest, Chickamauga Park, Ga., for duty, from Camp Sheridan, Lieut. EDMUND B. SPAETH.

To Camp Gordon, Atlanta, Ga., for duty, from Camp Sevier, Lieut. HASKETT L. CONNER.

To Camp Lee, Petersburg, Va., for duty, and on completion *to his proper station*, Lieut.-Col. EDGAR KING. For duty, from Camp Dodge, Lieut.-Col. CLARENCE E. FRONK. As assistant to the camp surgeon, from New York City, Lieut. DAVID H. W. GRANT.

To Camp Upton, L. I., N. Y., and *Hoboken, N. J.*, for duty, and on completion *to his proper station*, Col. DEANE C. HOWARD.

To Chicago, Ill., for duty, and on completion *to his proper station*, Col. REUBEN B. MILLER.

To Dansville, and *East Aurora, N. Y.*, for duty, and on completion *to his proper station*, Lieut.-Col. JOHN A. HORNSBY.

To Fort Jay, N. Y., for physical examination to determine his fitness for active duty, and on completion *to his home*, Major CHARLES W. FARR.

To Fort McHenry, Md., for examination to determine his physical fitness for active duty, and on completion *to his home*, Major HARRY R. BEERY.

To Fort Oglethorpe for duty, from Camp Wadsworth, Major WILLIAM W. PERCY.

To Hoboken, N. J., for temporary duty, from Rochester, N. Y., Col. GEORGE A. SKINNER.

To Hot Springs, N. C., for inspection, and on completion *to his proper station*, from Biltmore, N. C., Lieut.-Col. WILLIAM H. SMITH.

To Mineola, L. I., N. Y., for consultation, and on completion *to his proper station*, Col. WILLIAM O. OWEN.

To New York City, for duty, and on completion *to his proper station*, Lieut.-Col. WILLIAM F. LIPPITT.

To Ordnance Proving Ground, Aberdeen, Md., and *Gas Shell Plant*, Edgewood, Md., for sanitary inspection, and on completion *to his proper station*, Col. ALBERT E. TRUBY.

To Washington, D. C., for consultation, and on completion *to his proper station*, from Hoboken, Col. GUY L. EDIE; from Camp Devens, Lieut.-Col. WILLIAM A. POWELL; from Fox Hills, Lieut.-Col. HENRY H. RUTHERFORD. On completion *to New York City*, Major PHILIP B. CONNELLY.

To Whipple Barracks, Ariz., for duty, from Fort Bayard, Major CARL E. HOLMBERG.

Honorably discharged on account of physical disability incurred in line of duty, Major ROBERT E. SIEVERS.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Camp Gordon, Atlanta, Ga., for duty, Capt. JOHN R. OSWALT, Union Springs. Base hospital, from Camp Wheeler, Lieut. EDWARD C. HAGLER, Northport.

To Camp Pike, Little Rock, Ark., base hospital, from Camp Bowie, Lieut. LEO C. WOODS, Birmingham.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. BISHOP B. WARWICK, Talladega.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Fort Oglethorpe, Lieut. JAMES R. HAIGLER, Montgomery.

To Fort Oglethorpe for instruction, Lieut. SAMUEL S. UNDERWOOD, Anniston.

To Pittsburgh, Pa., Pittsburgh University, to make physical examinations and give medical attention to the drafted men to be enrolled at this institution, from Garden City, Lieut. WILLIAM R. ROUSSEAU, Huntsville.

Arizona

To Camp MacArthur, Waco, Tex., as member of the board examining the command for tuberculosis, Capt. ROY E. THOMAS, Phoenix.

Arkansas

To Camp Lewis, American Lake, Wash., base hospital, from Camp Cody, Lieut. HENRY W. A. LEE, West Helena.

To Fort Oglethorpe for instruction, Lieuts. ERNEST M. McKENZIE, Dardenelle; ERNEST DARNALL, Wildener.

To Jefferson Barracks, Mo., for duty, from Camp Bowie, Lieut. JOHN R. BROWN, Mansfield; from Camp Pike, Lieut. NOLIE MUNCY, Little Rock; from Fort Riley, JACOB LER. PRITCHARD, Winslow.

California

To Rock Island, Ill., for duty, from Camp Logan, Capt. FRED F. SPRAGUE, Los Banos.

Honorably discharged in order that he may accompany a mission to Persia, Capt. JOSEPH W. COOK, Redlands. On account of physical disability existing prior to entrance into the service, Capt. CARO W. LIPPMAN, San Francisco.

The following orders have been revoked: *To Camp Kearny*, Linda Vista, Calif., base hospital, Capt. FREDERICK A. COLLER, Los Angeles; To Fort Oglethorpe, base hospital, Capt. LAWRENCE H. HOFFMAN, San Francisco.

To Camp Cody, Deming, N. M., base hospital, Capt. HERBERT P. NOTTAGE, Oakland.

To Camp Kearny, Linda Vista, Calif., base hospital, Capt. HENRY W. MILLS, San Bernardino; from Fort Riley, Lieut. WALLACE DODGE, Los Angeles.

To Fort MacDowell, Calif., for duty, Lieut. JOHN P. STRICKLER, San Francisco.

To Fort Riley for instruction, Lieuts. WILLIAM A. SWIM, Los Angeles; ERNEST C. GRINER, San Francisco.

To New York City, Cornell Med. Coll., for instruction in military roentgenology, from Fort Riley, Lieuts. JOSEPH SAYLIN, El Monte; FREDERIC B. WEST, Los Angeles; ROBERT A. POWERS, San Francisco; BYRON Y. MILLER, San Luis Obispo.

To report by wire to the commanding general, Western Department, for assignment to duty, Lieut. PAUL K. JACKSON, San Luis Obispo.

To Washington, D. C., for duty in the Surgeon-General's Office, from Fort McHenry, Major HOWARD C. NAFFZIGER, San Francisco.

To the inactive list, from Camp Fremont, Lieut. FRED O. BUTLER, Eldridge.

The following order has been revoked: *To Camp Fremont*, Palo Alto, Calif., for duty, Capt. WILLIAM W. CROSS, Fresno.

Canal Zone

To Fort Oglethorpe for instruction, Lieut. HARRY G. EBERSOLL, Balboa Heights.

Colorado

To Camp Cody, Deming, N. M., base hospital, Capt. CYRUS L. PERSHING, Denver.

To Camp Jackson, Columbia, S. C., as assistant to camp surgeon, from Fort Oglethorpe, Capt. EDWARD J. SCANNELL, Trinidad.

To Fort Riley for instruction, Lieut. DALTON K. ROSE, Denver.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieut. WALTER K. HOTCHKISS, Brighton.

Connecticut

To Camp Sherman, Chillicothe, Ohio, base hospital, from New York City, Lieut. FRANK J. RONAYNE, Hartford.

To Fort Adams, R. I., for duty, Lieuts. FESSENDEN L. DAY, Bridgeport; HOWARD D. MOORE, Danbury.

To Fort Oglethorpe for instruction, Capt. FRANKLIN L. LAWTON, Hartford; Lieuts. FRED F. ARMSTRONG, Ansonia; JAMES R. KNOWLES, Danielson; HERMAN P. DAVIDSON; BERNARD F. GILCHRIST; CHARLES F. McGUIRE, New Haven.

To Fort R. G. Wright, L. I., N. Y., for duty, Lieut. GEORGE P. CHENEY, New London.

To New Haven, Conn., for duty, Lieut. BERNARD C. MARANTZ, New Haven; from New York City, Capt. JOHN B. GRIGGS, Hartford.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, from New York City, Lieut. MAX CLIMAN, Hartford.

District of Columbia

To Dayton, Ohio, Wilbur Wright Field, for duty, from Walter Reed General Hospital, Capt. EDWIN M. HASBROUCK, Washington.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, from Washington, D. C., Capt. CHARLES W. HYDE, Washington.

The following order has been revoked: *To Camp Greene*, Charlotte, N. C., base hospital, Capt. DANIEL D. V. STUART, Jr., Washington.

Florida

To Camp Joseph E. Johnston, Jacksonville, Fla., base hospital, Lieut. OTIS G. KENDRICK, Tallahassee.

To Fort Riley as orthopedic surgeon, from Cincinnati, Capt. HENRY C. DOZIER, Ocala.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. HUBER P. NEWMAN, Bartow.

The following order has been revoked: *To Fort Oglethorpe* for instruction, Lieut. CAREY P. ROGERS, Jacksonville.

Georgia

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieuts. BUFORD C. BIRD, Colquitt; EVERETT J. STOTHART, Savannah.

To Camp Laurel, Laurel, Md., for duty, from Fort Oglethorpe, Lieuts. FRANCIS M. BURKHALTER, Ray City; ORLANDO S. WOOD, Washington.

To Columbus, Ohio, Ohio State University, for duty, from Atlanta, Lieut. ERNEST S. COLVIN, Atlanta.

To Fort Oglethorpe for instruction, Capt. WILLIAM R. McCURRY, Hartwell; Lieuts. CHARLES H. DICKENS, Lawrenceville; MILTON WALTON, Lumpkin; RUPERT H. STOVALL, Macon; SOLOMON YOUMANS, Normantown; LEE HOWARD, Savannah.

To Camp Gordon, Atlanta, Ga., base hospital, Capt. FREDERICK G. HODGSON, Atlanta; from Camp Wheeler, Lieut. CYRUS K. SHARP, Arlington. For duty, Lieut. THOMAS H. SMITH, Atlanta.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, Lieut. WILLIAM J. MYERS, Savannah.

To Camp Meade, Annapolis Junction, Md., to examine the command for nervous and mental diseases, from Washington, D. C., Lieut. JAMES K. PETTIT, Milledgeville.

To Fort Oglethorpe for instruction, Capt. DANIEL B. EDWARDS, Savannah; Lieuts. WILLIAM C. BLANDFORD, EDWIN N. MAUER, Atlanta; JOHN K. BURNS, Jr., Clarkesville; WILLIS P. JORDAN, Kirkswood; SOLOMON YEUMANS, Normantown. For duty, Lieut. BENJAMIN E. GRAHAM, Gurley.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. JOHN W. ODEN, Blackshear; THOMAS J. BLACKSHEAR, Dublin.

Idaho

To Jefferson Barracks, Mo., for temporary duty, from Fort Riley, Lieut. DUNCAN L. ALEXANDER, Twin Falls.

Honorably discharged on account of physical disability incurred in line of duty, Capt. OSWALD F. HENNING, Jerome.

Illinois

To Camp Greene, Charlotte, N. C., base hospital, from Camp Sherman, Capt. WALTER D. STEVENSON, Quincy.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. VERGIL A. ROSS, Chicago; from Camp Dodge, Capt. PRESCOTT BENNETT,

Washington; from Camp Joseph E. Johnston, Lieut. WALTER A. FORD, Kankakee; from Camp Meade, Lieut. THOMAS R. MAXWELL, New Berlin.

To Camp Jackson, Columbia, S. C., base hospital, from Boston, Lieut. HERBERT B. HENKEL, Springfield; from Camp Lee, Lieut. WILLIAM J. SIEGLER, Chicago. For duty, Lieut. ANTON J. FIRTIK, Chicago.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieuts. WILLIAM H. EVANS, Murphysboro; HARRY H. HANLY, Peoria.

To Army Medical School for instruction, from Fort Oglethorpe, Capt. VICTOR M. DALY, Pontiac.

To Camp Cody, Deming, N. M., base hospital, Lieut. WALTER M. PRUYN, Chicago.

To Camp Custer, Battle Creek, Mich., base hospital, Lieuts. CLARENCE H. BOREN, HARRY C. DUNLAVY, Chicago.

To Camp Dix, Wrightstown, N. J., for duty, from Rantoul, Lieut. JAY T. WOOD, Springfield.

To Camp Dodge, Des Moines, Ia., base hospital, Lieut. SAMUEL L. THORPE, Clinton.

To Camp Forrest, Chickamauga Park, Ga., for duty, from Camp Doniphan, Capt. CARL L. BARNES, Chicago.

To Camp Kelly, San Antonio, Tex., for duty, from Camp MacArthur, Lieut. ALEXANDER A. DRILL, Chicago.

To Camp Meade, Annapolis Junction, Md., base hospital, from New York City, Capts. WINFIELD G. McDEED, Monticello; HUGH L. MARSHALL, Stronghurst.

To Camp Sherman, Chillicothe, Ohio, *Camp Dodge,* Des Moines, Ia., and *Camp Grant,* Rockford, Ill., for conference, and on completion *to his proper station,* Major ALLEN B. KANAVEL, Chicago. As assistant to camp surgeon, from Camp Devens, Capt. FREDERICK A. FISHER, Chicago.

To Colonia, N. J., for duty, Major SAMUEL R. SLAYMAKER, Chicago.

To Fort Leavenworth, Kan., for duty, from Camp Dodge, Lieut. CARL F. LEWIS, Jerseyville.

To Fort Logan, Colo., for temporary duty, and on completion *to his proper station,* from Camp MacArthur, Lieut. BERNARD BENKENDORF, Chicago.

To Fort Oglethorpe for instruction, Capts. EDWARD J. WHEATLEY, Danville; ANDY HALL, Mt. Vernon; Lieuts. TOM F. BEVERIDGE, LEWIS K. EASTMAN, HENRY G. LESCHER, DAVID J. MARGOLIS, JOHN J. OPITZ, EUGENE A. RUSH, ITALO F. VOLINI, Chicago; GERSON FREDERICKSON, Plano; MANUEL M. FAINER, West Frankford.

To Fort Riley for instruction, Lieut. HARRY LEWIN, Chicago.

To Hoboken, N. J., base hospital, from Hoboken, Major DANIEL M. OTTIS, Springfield. For duty, Lieuts. ARCHIBALD C. WEAVER, Hoopeston; WYLIE L. KELL, Mt. Vernon; LEWIS J. WEISHEW, Oswego; from Camp Crane, Lieut. GEORGE E. O'GRADY, Chicago.

To Jackson Barracks, La., for duty from Camp MacArthur, Lieut. ERWIN R. SCHMIDT, Chicago.

To Jefferson Barracks, Mo., for temporary duty, Lieut. WALTER A. DAY, Fosterburg; from Camp Beauregard, Capt. HARRY ROBENSTEIN, Chicago; from Camp Dodge, Capt. DUNCAN B. McEACHERN, Chicago. On completion *to his proper station,* from Camp Dodge, Lieut. JOHN O'CONNELL, Chicago.

Honorably discharged on account of physical disability not incurred in line of duty, Capts. FRANK B. EARLE, CHARLES E. PADDOCK, Chicago. On account of physical disability existing prior to entrance into the service, Capt. JOHN O. GASTON, Park Ridge.

Resignation of Lieut. HARRY F. BEEBE, Antioch, accepted.

The following orders have been revoked: To Fort Riley for instruction, Capt. CHARLES N. YOUNGER, Chicago; Lieut. JOHN J. HOPKINS, Hindsboro.

Indiana

To Newport News, Va., for duty, Lieut. LYMAN OVERSHINER, Summitville.

To Pittsburgh, Pa., Carnegie Bldg., for instruction, and on completion to Camp Wheeler, Macon, Ga., base hospital, Capt. GUSTAVUS B. JACKSON, Indianapolis.

To Washington, D. C., for duty in the Surgeon-General's Office, Capt. HUGH H. MILLER, South Bend.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. JOHN W. BALLARD, Logansport; OTTO H. SWANTUSCH, Metz.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, Capt. ROBERT M. RECOBS, Tipton.

To Camp Wadsworth, Spartanburg, S. C., for duty, Capt. BENONI N. ROSE, Evansville.

To Camp Wheeler, Macon, Ga., base hospital, from Fort Oglethorpe, Major FREDERICK A. TUCKER, Noblesville.

To Colonia, N. J., for duty Capt. LEWIS P. DRAYER, Fort Wayne.

To Fort Oglethorpe for instruction, Capts. ARTHUR T. FAGALY, Lawrenceburg; CLARENCE G. REA, Muncie.

To Fort Slocum, N. Y., for duty, from Camp Sherman, Major HARRY M. HOSMER, Gary.

To Hoboken, N. J., for duty, Lieut. WARD C. ZELLER, Union City.

To Lake Charles, Gerstner Field, Signal Corps Aviation School, from Mineola, Lieut. DONALD D. JOHNSTON, Fort Wayne.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to his proper station,* from Camp Custer, Lieut. JOHN C. GLACKMAN, Hatfield.

To Topeka, Kan., State Board of Health, as epidemiologist, Capt. MILLARD KNOWLTON, Sims.

To Washington, D. C., for duty, from Camp John Wise, Lieut. BERNARD J. LARKIN, Indianapolis.

Iowa

To Camp Lewis, American Lake, Wash., for duty, Capt. GEORGE A. SPAULDING, Avoca. Base hospital, from Camp Cody, Lieut. DAN W. SHINE, Oelwein.

To Camp Pike, Little Rock, Ark., base hospital, from Camp Bowie, Lieut. FRANK A. PRIESSMAN, Mechanicsville.

To Fort Logan, Colo., for temporary duty, and on completion *to his proper station,* from Fort Omaha, Lieut. JOSEPH W. TYRRELL, Des Moines.

To Fort Riley for instruction, Capts. JOHN C. DENNISON, Bellevue; JAMES E. McDONALD, Mason City; Lieuts. RALPH F. LUSE, Low Moor; SHIRLEY D. FOLSO, Muscatine; FREDERICK W. SLOBE, Orange City.

To Jefferson Barracks, Mo., for temporary duty, Lieut. ROBERT C. MOLISON, Marshalltown; from Fort Oglethorpe, Capt. CHARLES B. TAYLOR, What Cheer; from Fort Riley, Capt. ALBIN B. PHILLIPS, Clear Lake.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieuts. BEN T. WHITAKER, Boone; CARL KAIL, Stratford.

To report by wire to the commanding general, Central Department, for assignment to duty, Capts. JOHN E. MORGAN, Oskaloosa; CARL ASCHENBRENNER, Pella.

To Topeka, Kan., State Board of Health, as epidemiologist, from Fort Riley, Lieut. CHARLES D. SHELTON, Bloomfield.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. CHARLES D. BUSBY, Brooklyn; GEORGE J. WENZLICK, Iowa City.

The following order has been revoked: *To Fort Riley* for instruction, Lieut. CLARENCE McC. WRAY, Iowa Falls.

Kansas

To Camp Dodge, Des Moines, Iowa, base hospital, Capt. OMAR LEG. COX, Iola.

To Camp Gordon, Atlanta, Ga., for duty, Lieut. LEWIS M. SCHRADER, Kingsley.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Cody, Lieut. ARTHUR B. CULLUM, Garnett.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from Camp Sherman, Lieut. GEORGE I. THACHER, Waterville.

To Fort McPherson, Ga., base hospital, from New York City, Lieut. DONALD R. BLACK, Rosedale.

To Fort Riley for instruction, Lieuts. WALTER C. KELLER, Athol; ROSCOE C. WARD, Belleville; GEORGE B. HARRISON, Eureka; GORDON W. HIGGINBOTHAM, GUY R. WALKER, Hutchinson; MARVIN HALL, Wichita.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieut. CYRIL E. SHEPPARD, Larned; FRANCIS B. SHELDON, Manhattan; CHARLES M. MILLER, Oakley; EARL J. FROST, Wichita.

To report by wire to the commanding general, Central Department, for assignment to duty, Capt. CHARLES S. FERGUSON, Atchison.

The following order has been revoked: *To Fort Oglethorpe* for instruction, Lieut. SEBREE S. McGINNIS, Dighton.

Kentucky

To Fort Oglethorpe for instruction, Capts. AMPHILIAS O. SISK, Earlington; JAMES B. SMITH, McKinney; SIDNEY J. ANDERSON, Midway; Lieuts. WILLIAM T. LITTLE, Calvert City; OLIVER P. MILLER, Columbia; WILLIAM S. ECKMAN, Covington; KIRTEY B. WOOLERY, Falmouth; from New York City, Capt. OSCAR E. BLOCH, Louisville.

To Fort Sam Houston, Tex., base hospital, from El Paso, Lieut. EMORY L. DRAVO, Jeffersontown.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Baltimore, Capt. THOMAS H. KELLY, Covington.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Fort Oglethorpe, Lieut. CHARLES HUNT, Clinton.

To Fort Oglethorpe for instruction, Capt. DAVID H. DANIEL, Paintsville; Lieuts. ROBERT D. HIGGINS, Ashland; LOSSIE E. GILBERT, Marion; OLIVER P. HENRY, Mount Sterling; FRANCIS E. DENMAN, Nicholasville; BERTON M. BROWN, Quicksand; JAMES C. PRESTON, Smalley.

To Fort Wayne, Mich., for duty, from Fort Omaha, Lieut. CHARLES P. HARROD, South Park; from Rochester, N. Y., Lieuts. ISAAC L. WYATT, Buffalo; JOHN F. HAHS, La Center.

To Jefferson Barracks, Mo., for temporary duty, and on completion *to his proper station,* from Camp Doniphan, Lieut. SAMUEL T. PARKER, Lexington; from Camp Sherman, Lieut. CHARLES E. VIDT, Russell.

To Washington, D. C., for temporary duty, Capt. WILLIAM C. WHITE, Louisville.

Honorably discharged on account of physical disability existing prior to entrance into the service, Capt. PORTER V. BALLOU, Rowena.

Louisiana

To Camp Beauregard, Alexandria, La., base hospital, from Fort Oglethorpe, Lieut. THOMAS B. CRACROFT, Kelly.

To Camp Crane, Allentown, Pa., base hospital, from Camp Sherman, Lieut. AUGUST J. PODESTA, New Orleans.

To Camp Dodge, Des Moines, Iowa, base hospital, from Fort Oglethorpe, Lieut. PRESSLEY E. WERLEIN, New Orleans.

To Camp Shelby, Hattiesburg, Miss., as orthopedic surgeon, from Fort Oglethorpe, Lieut. FRANK CHETTA, New Orleans.

To Jefferson Barracks, Mo., to examine the command for tuberculosis, from duty as a contract surgeon, Lieut. PERCY L. QUERENS, New Orleans.

Maine

To Camp Devens, Ayer, Mass., base hospital, Lieut. FRANK Y. GILBERT, Portland.

To Camp Dix, Wrightstown, N. J., for duty, from Camp Sevier, Capt. LORING S. LOMBARD, South Portland.

To Fort Oglethorpe for instruction, Capt. JESSE S. BRAGG, Winter Harbor; Lieut. TRUE E. MAKEPEACE, Farmington.

To Fort Sam Houston, Texas, to examine the command for cardiovascular diseases, from Fort Oglethorpe, Lieut. SETH S. MULLIN, Bath.

To Fort Slocum, N. Y., to make nervous and mental examinations, and on completion *to his proper station,* from New York City, Lieut. ARTHUR C. WRIGHT, Augusta.

To Toledo, Ohio, Toledo University, to make physical examinations, and give medical attention to the drafted men to be enrolled at this institution, from Garden City, Lieut. JOHN L. PEPPER, Madison.

Maryland

To Camp Dix, Wrightstown, N. J., to examine the command for mental and nervous diseases, from Dansville, N. Y., Lieut. NOLAN D. C. LEWIS, Crownsville.

To Camp Sherman, Chillicothe, Ohio, base hospital, from New York City, Lieut. WILMER M. PRIEST, North East.

To Colonia, N. J., for duty, Capt. HARRY L. WHITTLE, Baltimore.

To Fort Oglethorpe for instruction, Lieut. FRANCIS X. KEANEY, Baltimore.

To Fort Riley base hospital, from Fort Des Moines, Major FRANK MARTIN, Baltimore.

To Hoboken, N. J., base hospital, from New York City, Capt. JOHN P. BEESON, South West City; Lieut. HOWARD J. HAMMAN, Baltimore.

To Washington, D. C., American University, for duty, Lieut. WILLIAM P. FINNEY, Jr., Baltimore; from Camp McClellan, Lieut. GEORGE B. WISLOCKI, Baltimore.

The following order has been revoked: *To Camp Travis,* Fort Sam Houston, Texas, as member of the tuberculosis board, Capt. CHARLES W. RAUSCHENBACH, Baltimore.

Massachusetts

To Boston, Mass., Harvard Medical School, for inspection, and on completion *to his proper station,* Capt. FRANCIS W. PEABODY, Boston.

To Camp Colt, Gettysburg, Pa., for duty, from Fort Oglethorpe, Lieut. ELISHA S. LEWIS, Princeton.

To Camp Crane, Allentown, Pa., base hospital, Lieut. GEORGE W. SHIRK, Hatfield.

To Camp Upton, L. I., N. Y., base hospital, Capt. DONALD MACOMBER, West Newton; Lieut. CLARENCE W. STANSFIELD, Fall River.

To Camp Wheeler, Macon, Ga., base hospital, from Camp Greene, Major HARRY W. GOODALL, Lieut. RICHARD S. EUSTIS, Boston; from Camp Sevier, Lieuts. GEORGE W. PAGEN, WARREN M. PETTINGILL, Boston, from Fort Oglethorpe, Lieut. ROY S. PERKINS, Lowell.

To Camp Devens, Ayer, Mass., base hospital, Capt. WILLIAM K. S. THOMAS, Cambridge; Lieut. HIRAM H. AMIRAL, Boston.

To Camp Dodge, Des Moines, Iowa, base hospital, and on completion *to Baltimore, Md.,* Johns Hopkins Hospital, for instruction. Capt. ANDREW W. SELLARDS, Boston. Base hospital, and on completion *to his proper station,* from Rockefeller Institute, Lieut. ARTHUR B. LYON, Boston.

To Camp Lee, Petersburg, Va., for conference, and on completion *to Rockefeller Institute,* for instruction in the treatment of infected wounds, and on completion *to Camp Wheeler,* Macon, Ga., base hospital, from Camp Wheeler, Major FRED B. LUND, Boston.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Cody, Lieut. JAMES M. MURPHY, Palmer.

To Camp Meade, Annapolis Junction, Md., base hospital, from New York City, Lieut. WILLIAM B. ADAMS, Springfield.

To Fort McDowell, Calif., for temporary duty, and on completion *to his proper station,* from San Francisco, Capt. SIDNEY M. BUNKER, Boston.

To Fort Oglethorpe for instruction, Capt. ERNEST B. YOUNG, Boston; WILLIAM J. HAMMOND, Dorchester; NATHANIEL K. NOYES, Duxbury; Lieuts. CARL A. DAHLEN, Brookline; FRANCIS T. ROLLINS, East Boston; CHARLES S. DOUCET, Lowell; DRED C. GODDARD, Neponsit; GEORGE T. LITTLE, Uxbridge; SIDNEY C. DALRYMPLE, West Medford.

To Hoboken, N. J., for duty, Capt. EDWARD H. BUSHNELL, Quincy; Lieuts. LYSANDER S. KEMP, Canton; CLAYTON R. LANE, Fitchburg.

To Lakewood, N. J., for consultation, and on completion *to his proper station,* Major KENDALL EMMERSON, Worcester.

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, Major FREDERIC J. COTTON, Boston.

Honorably discharged on account of physical disability existing prior to entrance into the service, Major GEORGE OSGOOD, Cohasset.

Michigan

To Camp Dodge, Des Moines, Iowa, base hospital, Capt. ARTHUR E. OWEN, Lansing.

To Camp Pike, Little Rock, Ark., base hospital, Lieut. FRANK B. MacMULLEN, Detroit.

To Camp Upton, L. I., N. Y., base hospital, Major WILEY E. WOODBURY, Detroit.

To Fort Benjamin Harrison, Ind., to make nervous and mental examination of the drafted men, from Fort Riley, Major FREDERICK H. NEWBERRY, Detroit.

To Fort Oglethorpe for instruction, Lieuts. MAURICE C. LOREE, Ann Arbor; THEODORE P. VANDER ZALM, Blanchard; HERMAN F. ALBRECHT, DON A. COHOE, DANIEL R. DONOVAN, LYELE O. SHAW, HARRY B. YOH, Detroit; HENRY C. HANSEN, Escanaba; LLOYD K. BABCOCK, Galien.

To Fort Porter, N. Y., for duty, Capt. HOMER E. SAFFORD, Detroit.

To Fort Sam Houston, Texas, for duty, from Camp Travis, Capt. ROBERT B. HARKNESS, Houghton. To examine the troops for tuberculosis, from Camp Doniphan, Lieut. RAY L. FELLERS, Detroit.

To Fort Sill, Okla., School of Aerial Observers, for duty, from Mineola, Lieut. RAYMOND S. GOUX, Detroit.

To Hoboken, N. J., for duty, Capt. MARSHALL L. CUSHMAN, Lansing; Lieuts. JOHN F. BARTON, Calumet; CLINTON DAY, Hart.

To Mineola, L. I., N. Y., Hazelhurst Field, Signal Corps Aviation School, from Detroit, Capt. GEORGE E. FORTHINGHAM, Detroit.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. CARL M. McCUISTON, Mount Clemens.

The following orders have been revoked: *To Jefferson Barracks, Mo.,* to examine the command for cardiovascular diseases, Lieut. FORREST R. OSTRANDER, Lansing. *To New Orleans, La.,* Charity Hospital, for instruction, and on completion *to his proper station,* Capt. FRANK C. KINSEY, Grand Rapids. *To Williamsbridge, N. Y.,* for duty, Lieut. FRANK T. F. STEPHENSON, Detroit.

Minnesota

To Camp Dodge, Des Moines, Iowa, base hospital, from Fort Oglethorpe, Lieut. HARRY P. WAGENER, Minneapolis.

To Camp Upton, L. I., N. Y., for duty, from Army Medical School, Lieut. PERCY A. WARD, Minneapolis.

To Fort Oglethorpe for instruction, Lieuts. HOWARD L. SARGEANT, Northfield; OLE S. NESETH, Skyberg; ABRAHAM D. SHAPERO, St. Paul.

To Fort Riley for instruction, Lieuts. LEE W. POLLOCK, Rochester; EDWARD N. DEWITT, St. Paul.

To Jefferson Barracks, Mo., for temporaray duty, and on completion *to his proper station,* from Fort Riley, Capt. EARL H. MARCUM, Bemidji. For temporary duty from Fort Riley, Lieut. WALTER H. HALLORAN, St. Paul.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieuts. CAMPBELL SANSING, Duluth; JEAN B. CLAIR, Winsted.

To report by wire to the commanding general, Central Department, for assignment to duty, Capt. MINOR MORRIS, Hopkins.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Custer,* Battle Creek, Mich., base hospital, from Camp MacArthur, Major CHESTER H. CLARK, Duluth.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School,* for duty, from Camp Grant, Lieut. MILLARD F. SMITH, St. Paul.

To the inactive list, from Minneapolis, Capt. RALPH ST. J. PERRY, Minneapolis.

The following order has been revoked: *To Fort Riley* for instruction, Lieut. WILLIAM J. KUCERA, New Prague.

Mississippi

To Camp Beauregard, Alexandria, La., base hospital, from New York City, Lieut. JAMES S. RIED, Lamkin.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Cody, Lieut. LITTLE B. NEAL, Jackson. For duty, from Fort Leavenworth, Lieut. EUGENE R. SHURLEY, Lulu.

To Camp Pike, Little Rock, Ark., base hospital, from Camp Bowie, Lieut. FRANKLIN H. RUSSELL, Wayside.

To Fort Oglethorpe for instruction, Lieut. WILLIAM E. VAN DEVERE, Buen.

To Fort Riley for duty, from Camp Shelby, Lieut. ALLISON T. GRAHAM, Eastman.

To Fort Wayne, Mich., for duty, from Rochester, N. Y., Lieut. MARTIN L. HOLLAND, Schlater.

To Jefferson Barracks, Mo., for duty, from Camp Bowie, Lieut. LEWIS W. KITCHENS, Strayhorn.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. FILO B. COATS, Hardy Station.

Missouri

To Fort Riley for temporary duty, from Fort Riley, Capt. CLIFTON R. DUDLEY, St. Louis. Base hospital, Lieut. WILLIAM C. DIECKMAN, Dexter. For instruction, Lieuts. JAMES G. MONTGOMERY, Kansas City; WALDO H. WILL, Mehlville; MAURICE J. LONSWAY, St. Louis.

To Fort Sill, Okla., for temporary duty, from Fort Riley, Lieut. WALTER E. WEST, Trenton.

To Lakewood, N. J., for temporary duty, from Army Medical School, Capt. GREENE D. McCALL, Fulton.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, from Kansas City, Mo., Lieut. THEODORE S. BLAKESLEY, Kansas City.

To Camp Crane, Allentown, Pa., base hospital, Capt. CARL M. SNEED, Columbia. For duty, from Fort Riley, Lieut. BERNHARDT W. KLIPPEL, St. Louis.

To Camp Gordon, Atlanta, Ga., for duty, Lieut. CLAUDE L. ARMSTRONG, Webster Grove.

To Camp Greene, Charlotte, N. C., base hospital, from New York City, Capt. FREDERIC HAGLER, St. Louis.

To Camp Hancock, Augusta, Ga., base hospital, from Army Medical School, Lieut. URSA C. WESTON, Osgood.

To Camp Jackson, Columbia, S. C., base hospital, Lieuts. BRADFORD F. DEARING, HARRY W. SCHUMACKER, St. Louis.

To Cleveland, Ohio, Lakeside Hospital, for instruction, in anesthesia, from Fort Riley, Lieut. EUGENE A. MILLER, St. Joseph.

To Fort Oglethorpe for instruction, Lieut. OMAR R. SEVIN, St. Louis.

To Fort Riley for instruction, Capts. WESLEY R. HAWKINS, Glasgow; WILLIAM A. POTTER, Lancaster; Lieuts. EUGENE B. MUNIER, Bradleyville; EDWARD J. HAERLE, Kansas City; WILLIAM B. INMAN, St. Louis.

To Hoboken, N. J., for duty, from Jefferson Barracks, Capt. IRA R. CLARK, St. Louis.

To Jefferson Barracks, Mo., for duty, from Newport News, Lieut. DANIEL P. WRIGHT, St. Louis.

To report by wire to the commanding general, Central Department, for assignment to duty, Capts. U. S. GRANT ARNOLD, Portage Des Sioux; ANDREW F. KENNEDY, St. Louis.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, from New York City, Lieut. JAMIE C. THOMPSON, St. Louis.

Honorably discharged on account of physical disability existing prior to entrance into the service, Major WILLIAM J. FRICK, Kansas City; Lieut. MONTAGUS M. MEYERS, St. Louis.

The following order has been revoked: *To Chicago, Ill.,* Presbyterian Hospital, and on completion *to Camp Hancock,* Augusta, Ga., base hospital, Capt. WILLIAM T. ELAN, St. Joseph.

Montana

To Camp Grant, Rockford, Ill., for duty, from Fort Riley, Capt. GEORGE B. OWEN, Polson.

To Fort Riley for instruction, Lieuts. MICHAEL H. GLEASON, Butte; GEORGE H. DAVIS, Custer; EARL E. MEISTER, Missoula.

To Jefferson Barracks, Mo., for duty from Camp Dodge, Lieut. HAROLD SCHWARTZ, Butte. For temporary duty, and on completion *to his proper station,* from Camp Doniphan, Lieut. JOHN TOBINSKI, Missoula.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. HILMER G. KOEFOD, Rudyard.

Nebraska

To Camp Dix, Wrightstown, N. J., for duty, from San Antonio, Capt. WILLIAM J. PINKERTON, Bostwick.

To Camp Dodge, Des Moines, Ia., base hospital, from Army Medical School, Lieut. SANFORD R. GIFFORD, Omaha.

To Camp Joseph E. Johnston, Jacksonville, Fla., base hospital, Lieut. JOHN W. DUNCAN, Omaha.

To Camp Pike, Little Rock, Ark., base hospital, from Army Medical School, Lieut. CLARENCE M. HYLAND, Omaha.

To Fairfield, Ohio, Signal Corps Aviation School, for duty, from Fort Omaha, Lieut. FRANK W. SCOTT, Lodge Pole.

To Fort Logan, Colo., for temporary duty and on completion *to his proper station,* from Fort Omaha, Lieut. WILLIAM E. MOGAN, Petersburg.

To Fort Riley, base hospital, Capt. NORMAN T. HALE, Eustis. For instruction, Lieut. GEORGE H. DE MAY, Wilsonville.

To Houston, Tex., Ellington Field, Signal Corps Aviation School, from Mineola, Lieut. JOHN R. KLEYLA, Omaha.

To Jefferson Barracks, Mo., for temporary duty, from Fort Riley, Lieut. J. IRVIN LIMBURG, Walthill.

To Lonoke, Ark., Signal Corps Aviation School, from Mineola, Lieut. CLAUDE T. UREN, Omaha.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Capt. JOHN R. BEATTY, Butte; Lieut. EARL W. FETTER, North Platte. Neurological Institute for instruction, Major EDWIN C. HENRY, Omaha.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Pike*, Little Rock, Ark., base hospital, from Fort Riley, Lieut. JOHN H. REGAN, Grand Island.

Nevada

To New York City, Neurological Institute, for instruction, from San Francisco, Capt. BENJAMIN F. CUNNINGHAM, Nevada.

New Hampshire

To Camp Hancock, Augusta, Ga., for duty, from Camp Jackson, Capt. LAWRENCE R. HILL, Concord.

To Cincinnati, Ohio, for further instruction in orthopedic surgery, from Army Medical School, Capt. JAMES B. WOODMAN, Franklin.

New Jersey

To Fort Oglethorpe for instruction, Lieuts. DAVID C. THOMPSON, Bloomfield; JOSEPH C. BALSON, Passaic.

To Fort Riley for instruction, from Camp Lewis, Lieut. LEO V. ROSENTHAL, Trenton.

To Newport News, Va., for duty, Lieut. HOWARD T. BLAIR, Hoboken.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to Camp Wheeler*, Macon, Ga., base hospital, Lieut. JOHN A. THURSTON, Summit.

To Army Medical School for instruction, from Fort Oglethorpe, Lieut. DAVID M. GARDNER, Benson Mines.

To Camp Dix, Wrightstown, N. J., for duty, from Camp Sevier, Lieuts. THOMAS A. CRAVEN, Atlantic City; CORNELIUS V. CLOCK, Passaic; from duty as a private, Lieut. WARREN Z. DELL, Colden; from Garden City, Lieut. JOHN F. WEBER, South Amboy.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Wheeler, Lieut. THOMAS K. LEWIS, Camden.

To Camp Lee, Petersburg, Va., for duty, Lieuts. MEYER JEDEL, Newark; OTTO KOTHE, Union Hill.

To Fort Oglethorpe for instruction, Capts. HARRIS DAY, Chester; ABIJAH O. BUCK, Elizabeth; WILLIAM H. WARREN, Newark; Lieuts. RICHARD H. STAEHLE, Newark; HENRY H. TOMLIN, Wildwood.

To Fort Oglethorpe as orthopedic surgeon, from Cincinnati, Capt. WILLIAM L. CORNWELL, Bridgeton. For duty, from Camp Doniphan, Lieut. CHARLES W. BUVINGER, E. Orange.

To Hoboken, N. J., for duty, from Fort Oglethorpe, Lieut. HENRY E. KLAUS, West Hoboken.

To Newport News, Va., for duty, from Camp Dix, Lieut. HUGH V. GILLSON, Paterson.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, from New York City, Lieut. CHARLES B. KAIGHN, Stratford.

Resignation of Lieut. GEORGE W. WILLIAMS, Trenton, accepted.

New Mexico

To Camp Cody, Deming, N. M., base hospital, Capt. OLIVER J. WESTLAKE, Silver City.

To Fort Sill, Okla., Post Field, for duty, from Mineola, Capt. GEORGE D. CARTER, Mesilla Park.

New York

To Camp Beauregard, Alexandria, La., base hospital, from New York, Lieut. JAMES C. SULLIVAN, Buffalo.

To Camp Crane, Allentown, Pa., base hospital, from Surgeon-General's Office, Major SANGER BROWN, II, White Plains; from Camp Meade, Capt. GEORGE A. BLAKESLEE, New York.

To Camp Devens, Ayer, Mass., with the board examining the command for cardiovascular diseases, Lieut. WILLIAM S. LADD, New York.

To Camp Dix, Wrightstown, N. J., base hospital, from Camp Devens, Capt. HENRY W. JACKSON, New York.

To Camp Gordon, Atlanta, Ga., base hospital, from Army Medical School, Lieut. MARK COHN, New York; from Camp Devens, Capt. OTIS H. JOHNSON, New York; from Camp Upton, Lieuts. JOHN SMITH, JR., New York; EDWIN C. FOSTER, Penn Yan; from Fort Oglethorpe, Lieut. FREDERICK C. DEVENDORF, Utica.

To Camp Greene, Charlotte, N. C., base hospital, from Walter Reed General Hospital, Capt. EDWARD DOWDLE, Oswego.

To Camp Upton, Long Island, N. Y., base hospital, Lieuts. EDWARD D. FRASER, Brooklyn; FLOYD H. MOORE, Herkimer; TOM LOWRY, New York; SAMUEL HOUSTON, Wolcott. For duty, from Fort Oglethorpe, Lieut. MICHAEL E. CAVALLO, New York.

To Camp Wheeler, Macon, Ga., base hospital, from Camp Doniphan, Capt. FREDERICK W. LESTER, Seneca Falls.

To Camp Zachary Taylor, Louisville, Ky., to examine the command for cardiovascular diseases, from Fort Oglethorpe, Lieut. FREDERICK W. HOLCOMB, New York.

To Colonia, N. J., for temporary duty, from Fort Oglethorpe, Lieut. BENJAMIN F. SPIEGEL, Brooklyn.

To Fort McHenry, Md., for temporary duty, Lieut. MATTHIAS L. FOSTER, New Rochelle.

To Fort McPherson, Ga., for temporary duty, from Fort Oglethorpe, Lieut. WILLIAM P. McCROSSIN, New York.

To Rockefeller Institute as instructors, Capt. HAROLD L. AMOSS, HENRY T. CHICKERING, Lieuts. FREDERICK L. GATES, EDGAR STILLMAN, New York. For instruction, and on completion *to Williamsbridge, N. Y.*, for temporary duty, Major WALTER A. SHERWOOD, Brooklyn. For instruction in laboratory work, and on completion *to Army Medical School*, for duty, Capt. EWING TAYLOR; Lieut. FRED W. NIEHAUS, New York. For instruction in the treatment of infected wounds and on completion *to Williamsbridge, N.Y.*, for temporary duty, Major WALTER A. SHERWOOD, Brooklyn. On completion *to his proper station*, from New York, Capt. FREDERICK N. WILSON, New York. On completion, *to Camp McClellan*, Anniston, Ala., base hospital, Lieut. LOUIS M. ALOFSIN, New York.

To Camp Dodge, Des Moines, Ia., base hospital, from Camp Greene, Capt. THOMAS A. ROGERS, Plattsburgh. On completion *to his proper station*, from Camp Meade, Lieut. HENRY M. THOMAS, New York.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Doniphan, Major CURTENIUS GILLETTE, New York; from Camp Wheeler, Lieut. ARTHUR E. SMITH, Cohoes; from Fort Oglethorpe, Lieut. JOSEPH LINTZ, New York. With the board examining recruits for cardiovascular diseases, from Camp Sevier, Major ANDREW MACFARLANE, Albany.

To Camp Grant, Rockford, Ill., with the board examining troops for cardiovascular diseases. Lieut. HERBERT MANN, New York.

To Camp Hancock, Augusta, Ga., as assistant to camp surgeon, from Garden City, Major ISAAC W. BREWER, Geneva.

To Camp Lee, Petersburg, Va., base hospital, from Camp Beauregard, Capt. RALPH A. KINSELLA, New York; from New York, Lieuts. HERMAN B. PHILLIPS, MAURICE M. POMERANZ, New York. For duty, Lieut. WILLIAM A. CKROYD, East Schodack. With the board examining the troops for cardiovascular diseases, from the Surgeon-General's Office, Lieut. MARCUS A. ROTHCHILD, New York.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Cody, Lieut. ARTHUR J. SMITH, Waverly.

To Camp McClellan, Anniston, Ala., base hospital, Lieut. JOHN J. BOLAND, New York.

To Camp Meade, Annapolis Junction, Md., base hospital, Lieut. EDMUND B. SULLIVAN, Mt. Vernon. To examine the command for nervous and mental diseases, Major ROSS McC. CHAPMAN, Binghamton.

To Camp Mills, Garden City, L. I., N. Y., as divisional sanitary inspector, from Fort Oglethorpe, Major E. J. BARRETT, New York. For duty, from Camp Mills, Major ISAAC W. BREWER, Geneva.

To Camp Pike, Little Rock, Ark., base hospital, from San Francisco, Capt. RAE W. WHIDDEN, New York City.

To Camp Travis, Tex., to examine the command for tuberculosis, Capt. FRANK FINNEY, Burke.

To Camp Upton, L. I., N. Y., base hospital, Lieut. WILLIAM L. SNEED, New York. For duty, from Camp Gordon, Lieut. JOHN H. WATSON, Buffalo.

To College Station, Tex., for duty, from Houston, Capt. GEORGE W. BEEBE, St. Johnsville.

To Dayton, Ohio, McCook Field, for duty, from Fairfield, Ohio, Capt. GARRETT M. CLOWE, Schenectady; from Fort Omaha, Lieut. PHILIP LEHMAN, Brooklyn.

To Fort Des Moines, Iowa, base hospital, from Fort Slocum, Major PERCY H. WILLIAMS, New York.

To Fort Logan, Colo., for temporary duty, and on completion *to his proper station*, from Fort Leavenworth, Capt. NOAH P. NORMAN, Watkins.

To Fort McHenry, Md., base hospital, from New York City, Major WILLIAM F. HONAN, New York; Lieut. FREDERICK P. SCHENKELBERGER, Gowanda.

To Fort Oglethorpe for instruction, Capts. JOSEPH C. DEVRIES, Brooklyn; JOHN R. HERRICK, Hempstead; BERNARD S. MOORE, Syracuse; Lieuts. MILTON ARONOWITZ, Albany; RAYMOND G. BELL, Auburn; LAWRENCE N. HACKETT, Bolivar; HAROLD MacM. JOHNSON, Buffalo; GEORGE F. MURNANE, Herkimer; GEORGE C. BARONE, Lockport; KARL GEBHARD, Mount Vernon; JOSEPH BOGAN, ARTHUR C. BRIGHT, CHARLES H. B. CARNAO, SIMON S. FRIEDMAN, HAROLD GROSS, JOHN G. F. HISS, WILLIAM LIEBERMAN, HENRY TRAUTMAN, New York; THOMAS M. CALLADINE, Perry; CHARLES MAGGIO, CHARLES C. TERESI, Rochester; ALBERT R. ELLISON, Spencer; JOHN L. SLY, Warwick.

To Fort Riley for duty, from Camp Doniphan, Lieut. CARL KAPLAN, Brooklyn.

To Fort Sill, Okla., Post Field, for duty, from Mineola, Lieut. HARRY FRIED, New York.

To Slocum, N. Y., to make nervous and mental examinations and on completion *to his proper station*, from New York, Capt. WILLIAM H. KENNA, Mt. Vernon.

To Fort Wayne, Mich., for duty, from Fort Omaha, Lieut. LEON S. KUREK, Buffalo.

To Fox Hills, N. Y., for duty, Capt. JEHIEL H. PATRICK, New York.

To Hoboken, N. J., for duty, Lieut. WILLIAM M. HANDLEMAN, New York; from Army Medical School, Lieuts. JAY B. RUDOLPHY, New York; HAROLD E. SMITH, Richmond Hills.

To Jefferson Barracks, Mo., for temporary duty, from Fort Riley, Lieut. JOHN L. LINN, Brooklyn. And on completion *to his proper station*, from Camp Dodge, Lieut. ALOYSIUS M. MULHOLLAND, New York.

To New Haven, Conn., for duty, Capts. GEORGE H. SHAW, Camillus; LEONARD P. SPRAGUE, Shateaugay; Lieuts. WILLIAM B. EBELING, Brooklyn; ROBERT A. LAMBERT, New York City.

To Newport News, Va., for duty, Lieut. JOHN L. NICHOLAUS, Schenectady; from Camp Dix, Lieut. SOLOMON HENDLEMAN, Brooklyn.

To New York City, Bellevue Hospital and Rockefeller Institute, for duty, and on completion *to his proper station*, Major RAYMOND P. SULLIVAN, Brooklyn.

To report by wire to the commanding general, Eastern Dept. for assignment to duty, Capt. PAUL H. VON ZIERELSHOFEN, Croghan.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to his proper station*, from Fort Riley, Lieut. ROY J. MARSHALL, Rome.

To Rockefeller Institute for instruction in laboratory work, and on completion to Army Medical School, for duty, Lieuts. WILLIAM L. McCANTY, Barker; JOHN P. FARSON, New York; from Fort Logan H. Roots, Lieut. EDMUND W. ILL, New York.. For instruction in the treatment of infected wounds, and on completion *to Camp McClellan*, Anniston, Ala., base hospital, Lieut. FRED W. EASTMAN, New York. On completion *to Camp Wadsworth*, Spartanburg, S. C., base hospital, Lieut. SAMUEL S. ROSENFELD, New York.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, from New York City, Lieuts. JACOB H. HIRSCH, Haverstraw; ALEXANDER W. JACOBS, New York.

To Williamsbridge, N. Y., for observation treatment, and report, Lieut. FLOYD M. MOORE, Herkimer.

Honorably discharged on account of physical disability, Capt. WILLIAM B. DEGARMO, New York. On account of physical disability existing prior to entrance into the service, Lieut. JOHN A. CONLEY, Penn Yan. On account of physical disability, not incurred in line of duty, Lieut. HERMAN W. SCHLAPPI, Fulton.

Resignations of Capts. NELSON K. FROMM, Albany; THOMAS B. MERRIGAN, New York, accepted.

The following orders have been revoked: *To Fort Oglethorpe* for instruction, Lieuts. ABRAM B. BRUNER, CHARLES L. McEVEETY, New York.

North Carolina

To Camp Jackson, Columbia, S. C., for duty, Lieut. WILLIAM E. BRACKETT, Caroleen; from Fort Oglethorpe, Lieut. CHARLES E. LYDAY, Albermarle.

To Camp Wadsworth, Spartanburg, S. C., base hospital, from Army Medical School, Lieut. JOHN E. WINE, Wilmington.

To Columbus Barracks, Ohio, for duty, from Washington Barracks, Capt. ALBERT DURHAM, Charlotte.

To Fort Oglethorpe for instruction, Lieuts. TIMOTHY G. WILLIAMS, Conetoe; GEORGE F. BULLARD, Elizabethtown; JOHN F. NASH, St. Pauls.

To Army Medical School for instruction, from Fort Oglethorpe, Lieut. HENRY B. MAXWELL, Whiteville.

To Camp Kelly, San Antonio, Tex., for duty, from San Antonio, Lieut. JOHN B. POWERS, Wake Forest.

To Fort Oglethorpe for instruction, Capt. BENJAMIN K. HAYS, Oxford; Lieuts. ARTHUR E. GOUGE, Bakersville; HARRY E. BROOKS, Sunberry.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. JULIUS N. HILL, Murphy.

The following order has been revoked: *To Fort Oglethorpe* for instruction, Lieut. ARTHUR E. GOUGE, Bakersville.

North Dakota

To Camp Gordon, Atlanta, Ga., for duty, Capt. ERNEST E. WANDS, Lisbon.

To Cincinnati, Ohio, Ohio Mechanics Institute, to make physical examinations and give medical attention to the drafted men to be enrolled at this institution, from Camp Taliaferro, Lieut. CECIL C. SMITH, Stanton.

To Fort Riley for instruction, Capt. JAMES E. CRAMMOND, Rugby; Lieut ROSCOE L. GHERING, Larimore.

To Jefferson Barracks, Mo., for temporary duty, from Camp Grant, Capt. ROBERT D. CAMPBELL, Grand Forks. On completion *to his proper station*, from Camp Sherman, Lieut. WALTER L. BARBOUR, Deering.

To New Orleans, Charity Hospital, for instruction, and on completion *to Camp Beauregard*, Alexandria, La., base hospital, from Jefferson Barracks, Capt. BERNARD S. NICKERSON, Mandan.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieuts. JOHN A. D. ENGESATHER Brocket; RALPH DEMING, Mercer; JOHN R. PENCE, Minot; CHARLES R. TOMPKINS, Oberon.

Ohio

To Fort Slocum, N. Y., as orthopedic surgeon, and on completion *to his proper station*, from Camp Dix, Lieut. HENRY J. PEAVY, JR., Toledo.

To Fort Wayne, Mich., for duty, from Washington, D. C., Major EDWARD D. SINKS, Lima.

To Fox Hills, N. Y., for duty, Lieuts. JOHN C. YOUNG, Cleveland; ALVIN H. CARR, Reading.

To Pittsburgh, Pa., Carnegie Bldg., for instruction, and on completion *to Camp Shelby*, Hattiesburg, Miss., base hospital, from Fort Oglethorpe, Lieut. SILAS W. SAXTON, Steubenville.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Shelby*, Hattiesburg, Miss., base hospital, Lieut. HENRY A. SPRINGER, Dayton.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to Camp Beauregard*, Alexandria, La., base hospital, from Fort Oglethorpe, Lieut. DAVE H. SMELTZER, Youngstown.

To Washington, D. C., St. Elizabeth's Hospital, for intensive training, Capt. MADISON G. BALDWIN, Toledo.

To Camp Devens, Ayer, Mass., base hospital, from Mineola, Capt. ARTHUR C. BACHMEYER, Cincinnati.

To Camp Hancock, Augusta, Ga., base hospital, from Army Medical School, Lieut. FRANK A. LAWRENCE, Elyria.

To Camp Pike, Little Rock, Ark., base hospital, from Army Medical School, Lieut. JOHN D. BOYLAN, Milford Center; from Fort Oglethorpe, Lieut. FREDERICK M. HOUGHTALING, Huron.

To Camp Shelby, Hattiesburg, Miss., base hospital, from Fort Oglethorpe, Capt. HARRY S. NOBLE, St. Mary's.

To Camp Sheridan, Montgomery, Ala., base hospital, from Fort Oglethorpe, Capt. ORIN W. ROBE, Portsmouth.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Fort Oglethorpe, Lieut. JAMES C. BERRY, Shadyside.

To Cleveland, Ohio, Lakeside Hospital, for instruction in anesthesia, Lieut. JOHN A. MELLON, Columbiana.

To Fort Logan, Colo., for temporary duty, and on completion *to his proper station*, from Fort Oglethorpe, Lieut. HENRY L. PRICE, Toledo.

To Fort Oglethorpe for instruction, Capts. AMBROSE H. MOUSER, Latty; JULIAN V. WINANS, Madison; IRVING S. WORKMAN, Mount Vernon; Lieuts. WILLIAM L. FOX, Akron; FRANK L. SALISBURY, Dayton; EDGAR P. COOK, Granville; LEON E. PANGBURN, Levanna; JAY R. CRAWLEY, Marion; FERNAND J. LEBLICQ, Sandusky; WESLEY C. REDD, Youngstown; from Army Medical School, Lieut. LORIN G. SHEETS, Cleveland; from Camp Hancock, Capt. EDWARD C. LUDWIG, Columbus; from duty as a private, Lieut. LEO. R. MAJESWSKY, Cincinnati.

To Hoboken, N. J., for duty, Capts. THEODORE BROCK, Brecksville; CLAUDE A. TALLMAN, Lima; LUCIUS W. PRICHARD, Ravenna; from Army Medical School, Lieut. ALBERT F. SNELL, JR., Cincinnati.

To Jefferson Barracks, Mo., for temporary duty, and on completion *to his proper station*, from Camp Sherman, Capt. WALTER B. TURNER, Youngstown.

To Mineola, L. I., N. Y., Signal Corps Aviation School, from Garden City, Lieut. FRANK S. VAN DYKE, Columbus.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieut. RAY C. ASH, Ashland.

To Washington, D. C., for duty in the Surgeon-General's Office, and on completion *to the inactive list*, Lieut. FRANCIS J. GALLAGHER, Cleveland.

To the inactive list from Cincinnati, Capt. ARTHUR E. OSMOND, Cincinnati.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. ZALMON C. SHERWOOD, Geneva.

The following orders have been revoked: *To Camp Crane*, Allentown, Pa., base hospital, Capt. JOHN H. HARVEY, Toledo. *To Fort Oglethorpe* for instruction, Lieut. HENRY B. RAMAN, Farmingdale. *To Fox Hills, N. Y.*, for duty, Lieut. ALVIN H. CARR, Reading.

Oklahoma

To Camp Travis, Fort Sam Houston, Texas, as orthopedic surgeon, from Fort Oglethorpe, Lieut. REUBEN M. HARGROVE, Norman.

To Fort Oglethorpe for instruction, Lieuts. ARCHIE BEE, ELIJAH S. SULLIVAN, Oklahoma City.

To Fort Riley for instruction, Lieut. GEORGE G. HARRIS, Byron; from Dallas, Lieut. LEVI P. MURRAY, Milfay.

To Jefferson Barracks, Mo., for temporary duty, and on completion *to his proper station*, from Camp Doniphan, Lieut. CLYDE F. LOY, Shawnee.

To report by wire to the commanding general, Southern Department, for assignment to duty, Lieuts. WILLIAM M. TUCKER, Sulphur; JAMES F. PADDLEFORD, Woodward.

To report to the governor, Panama Canal, for duty, from New York, Lieut. CHARLES M. MING, Okmulgee.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. WILLIAM J. WHITAKER, Pryor.

Oregon

To Camp Lewis, American Lake, Wash., base hospital, Capt. CHAS. E. SEARS, Portland.

To Camp Sheridan, Montgomery, Ala., base hospital, from Camp Zachary Taylor, Lieut. BENJAMIN N. WADE, Portland.

To Fort Riley for instruction, Capt. T. HOMER COFFEN, Portland.

To Mineola, L. I., N. Y., Hazelhurst Field, Signal Corps Aviation School, from Portland, Ore., Capt. HERBERT L. UNDERWOOD, LaGrande.

To San Francisco, Calif., Lettermann General Hospital, for duty, from Camp Fremont, Major GEORGE E. DARROW, Eugene.

Honorably discharged on account of physical disability existing prior to entrance into the service, Capt. CLAUDE M. PEARCE, Baker.

The following order has been revoked: *To Army Medical School* for instruction, Lieut. ALBERT W. TIEDEMANN, Baker.

Pennsylvania

To Camp Greene, Charlotte, N. C., base hospital, from Fort Oglethorpe, Capt. DANIEL P. RAY, Johnstown; from Boston, Lieut. JOHN B. HAINES, Philadelphia.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. HERSCHEL C. WALKER, Philadelphia.

To Camp Kelly, San Antonio, Texas, for duty, from Camp MacArthur, Capt. JOSEPH J. CLARKE, Pittsburgh.

To Camp Laurel, Laurel, Md., for duty, from Fort Oglethorpe, Lieut. BRADLEY H. HOKE, Coalport.

To Mineola, L. I., N. Y., Signal Corps Aviation School, from Garden City, Lieut. SYDNEY L. WINGRADE, Philadelphia.

To New York City for investigation, and on completion *to his proper station*, Major DAVID SILVER, Pittsburgh. *Bellevue Hospital* for instruction, and on completion *to Camp Shelby*, Hattiesburg, Miss., base hospital, Lieut. LESTER E. WOOMER, Houtzdale.

To Pittsburgh, Pa., Carnegie Building, for instruction, and on completion *to Camp Sheridan*, Montgomery, Ala., base hospital, Lieut. JOHN C. GABLE, Freeland.

To Riverside, Calif., March Field, Signal Corps Aviation School, from Camp Kelly, Capt. CHARLES G. EICHER, McKees Rock.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to Camp Greene*, Charlotte, N. C., base hospital, from Camp Greene, Major JONATHAN M. WAINWRIGHT, Scranton. On completion *to his proper station*, from New York City, Capt. WILLIAM L. ESTES, South Bethlehem. On completion *to Camp Upton, L. I., N. Y.*, base hospital, Lieut. MARTIN S. KLECKNER, Allentown. For instruction in laboratory work, and on completion *to Army Medical School* for duty, Lieut. ROBERT D. SPENCER, Williamsport.

To Army Medical School for instruction, from Fort Oglethorpe, Lieut. ARNE W. CLOUSE, Geneva.

To Camp Dix, Wrightstown, N. J., for duty, from duty as contract surgeon, Lieut. FRANK M. DYSON, Philadelphia; from Garden City, Lieut. JOHN L. STEFFY, Pittsburgh.

To Camp Dodge, Des Moines, Iowa, base hospital, Capt. WILLIAM D. HEBSACKER, Philadelphia; from Fort Oglethorpe, Lieut. LOUIS SEGAL, Philadelphia.

To Camp Gordon, Atlanta, Ga., base hospital, from Camp Wheeler, Lieut. WALTER M. BERTOLET, Reading.

To Camp Greene, Charlotte, N. C., base hospital, from Boston, Lieut. JOHN B. HAINES, Philadelphia.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. WILLIAM M. DONOVAN, Philadelphia.

To Camp Lee, Petersburg, Va., base hospital, Lieut. EDWIN S. SAYLOR, Philadelphia.

To Camp Pike, Little Rock, Ark., base hospital, from Camp Bowie, Lieut. JOHN M. WELCH, Philadelphia.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Fort Oglethorpe, Lieut. SIMEON D. BASHORE, Palmyra.

To Cape May, N. J., for temporary duty, Majors CHARLES H. FRAZIER, DANIEL J. McCARTHY, Philadelphia.

To Cleveland, Ohio, Lakeside Hospital, for instruction in anesthesia, from Fort Oglethorpe, Lieut. CHARLES D. BIERER, Uniontown.

To Fort Benjamin Harrison, Ind., base hospital, from Camp Jackson, Major HENRY TUCKER, Philadelphia.

To Fort McHenry, Md., base hospital, from New York City, Lieut. EDWARD P. CLARK, Pittsburgh.

To Fort Oglethorpe for instruction, Capts. HARRY BRADY, Grays Landing; HENRY HEILMAN, Philadelphia; HENRY H. THOMPSON, Philipsburg; H. MELVIN ALLEN, Reading; Lieuts. THOMAS E. BROWN, Carnegie; GUY E. DUTTER, Hillgrove; LOUIS W. GROSSMAN, New Castle; JOHN LEEDOM, ABRAHAM M. SHARPE, Philadelphia; PAUL C. BRUCE, WILLIAM B. RECTENWALD, SALVATORE C. SUNSERI, CHARLES H. WOLFE, Pittsburgh; HARRY K. HOBBS, Shenandoah; VINCENT J. GRAUTEN, West Chester; JOSEPH W. HARSHBERGER, Winburny.

To Fort Riley for instruction, and on completion *to Camp Grant*, Rockford, Ill., as commanding officer of base hospital, Major WILLIAM H. WALSH, Philadelphia.

To Fort Sam Houston, Texas, for duty, from Camp Doniphan, Lieut. MORRIS H. TINDALL, Philadelphia.

To Fort Sill, Okla., for duty, from Mineola, Capt. JOHN P. GALLAGHER, Philadelphia.

To Fox Hills, N. Y., for duty, Lieut. FRANK W. THOMAS, Philadelphia.

To Hoboken, N. J., for duty, Capts. ARTHUR R. WILSON, Monessen; SNYDER J. H. LOUTLER, Somerset; Lieut. FRANK A. CLAWSON, Meadville; from Army Medical School, Lieuts. MYRON A. ZACKS, Philadelphia; HERBERT F. KENNY, Pittsburgh; from Camp Sherman, Lieut. EDGAR J. MILLER, East Berlin.

To Houston, Texas, Ellington Field, Signal Corps Aviation School, from Mineola, Lieut. ROBERT T. M. DONNELLY, Philadelphia.

To Jefferson Barracks, Mo., with the board to examine the troops for cardiovascular diseases, Lieut. THOMAS G. JENNY, Pittsburgh.

To Lake Charles, La., Gerstner Field, Signal Corps Aviation School, from Mineola, Lieuts. JAMES DEW. JACKSON, Erie; SYDNEY L. WINGRADE, Philadelphia.

To Markleton, Pa., for temporary duty, Lieut. HENRY F. SCHANTZ, Reading.

To Memphis, Tenn., Signal Corps Aviation School, for duty, from Mineola, Capt. ROBERT J. HUNTER, Philadelphia.

To Mineola, L. I., N. Y., Signal Corps Aviation School, Lieut. EDWARD R. SIBLEY, Elkins Park.

To Newport News, Va., as orthopedic surgeon in camp, from Army Medical School, Lieut. WILLIAM O. MARKELL, Wilkinsburg. For duty, from Camp Dix, Lieuts. MEDUS M. DAVIS, Indiana; WILLIAM WEISS, Philadelphia.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Camp Jackson, Capt. WILLIAM VAN KORB, Philadelphia.

To Picatinny, N. J., for duty, from Dansville, Capt. WILMARTH S. BUCK, Pittsburgh.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to his proper station*, from Camp Custer, Lieut. CHENEY M. STIMSON, Philadelphia.

To Saybrook, Conn., for duty, Lieut. SAMUEL W. REEVES, Fawn Grove.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, from New York City, Capt. FRED W. DAVIS, Scranton.

Honorably discharged on account of physical disability incurred in line of duty, Lieuts. CHARLES J. CAVANAGH, JAMES A. SMITH, Philadelphia. On account of physical disability existing prior to entrance into the service, Capt. RAY McK. ALEXANDER, Boliver; Lieut. HARRY B. SOBERNHEIMER, Philadelphia.

Rhode Island

To Camp Sevier, Greenville, S. C., base hospital, from Camp Pike, Lieut. JONATHAN P. HADFIELD, Providence.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. MICHAEL H. SCANLON, Westerly.

South Carolina

To Camp Lee, Petersburg, Va., for consultation, and on completion *to his proper station*, from Camp Wadsworth, Major CURRAN B. EARLE, Greenville.

To Fort Oglethorpe for instruction, Capt. LOAMI J. SMITH, Ridge Springs; Lieuts. ELLIS B. GRAY, Gray Court; ISHAM W. PITTMAN, Turbeyville.

Honorably discharged, Lieut. JOHN E. BEARDEN, Laurence.

South Dakota

To Fort Riley for instruction, Lieut. LAWRENCE J. BROOKMAN, Vermilion.

Tennessee

To Camp Sheridan, Montgomery, Ala., for duty, from Fort Oglethorpe, Lieut. BENJAMIN F. LORING, Union City.

To Edgewood, base hospital, Lieut. RANDALL E. WYATT, Nashville.

To Fort Oglethorpe as commanding officer of base hospital, Major EDWARD C. MITCHELL, Memphis. For instruction, Lieuts. WALTER W. WIDMER, Laurel Bloomery; SAMUEL N. ANDERSON, South Pittsburg; CHESTER A. SKELTON, St. Elmo.

To Camp Meade, Annapolis Junction, Md., to examine the command for nervous and mental diseases, from Washington, D. C., Lieut. WILLIAM B. LUNSFORD, Nashville.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. ERNEST B. THOMPSON, Nashville.

To Fort Oglethorpe for instruction, Capts. THOMAS E. P. CHAMBERS, Cleveland; JOHN OVERTON, Nashville; Lieuts. CHARLES Y. BAILEY, Baileyton; ROBERT G. LATIMER, Capleville; GEORGE W. BURCHFIELD, Dandridge; YOURA S. BROWN, Halls; WILLIAM T. BUSK, Henderson; ORVILLE H. CRIBBINS, Moscow; MATTHEW W. SEARIGHT, Nashville; WILLIAM G. L. BLACKWELL, Ripley.

To Fort Riley for duty, Lieut. SALVADOR L. BOCCELLATO, Memphis.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieut. WILLIAM P. LAW, Westmoreland.

Honorably discharged on account of physical disability existing prior to entrance into the service, Capt. LELAND H. MILLIGAN, Morristown.

Texas

To Camp Travis, Fort Sam Houston, Texas, base hospital, from Army Medical School, Lieut. RUSSELL E. TYLER, Newlin.

To Fort McPherson, Ga., for duty, Lieut. CLARENCE R. MILLER, San Angelo.

To Fort Oglethorpe for instruction, Lieut. IRA F. CANNON, Mart.

To Fort Riley for instruction, Capt. HENRY S. BUNCH, Weatherford; Lieuts. ALLEN M. BAKER, Carthage; THOMAS B. SAPPINGTON, Eagle Ford; ELISHA H. ROBERTS, Fort Worth.

To Fort Sill, Okla., for duty, Lieut. JOHN M. DARROUGH, San Antonio.

To Mineola, L. I., N. Y., Signal Corps Aviation School, from Garden City, Lieut. GEORGE P. RAWLS, St. Augustine.

To New Orleans, Charity Hospital, for instruction, and on completion to Camp Shelby, Hattiesburg, Miss., base hospital, Capt. HENRY H. OGILVIE, San Antonio.

To Newport News, Va., for duty, from Army Medical School, Lieut. COLE F. SMITH, San Antonio.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Grant*, Rockford, Ill., base hospital, Capt. BARTLETT U. SIMS, Bryan.

To Camp Beauregard, Alexandria, La., base hospital, Lieut. EMMETT L. GRAHAM, McGregor; from duty as a private, Lieut. JOSEPH J. ANDERSON, Cooledge.

To Camp Cody, Deming, N. M., as orthopedic surgeon, from Fort Oglethorpe, Lieut. DALLAS SOUTHARD, Stamford.

To Camp Crane, Allentown, Pa., base hospital, from Hoboken, Lieut. SIDNEY C. VENABLE, Sherman.

To Camp Custer, Battle Creek, Mich., base hospital, Major SCURRY L. TERRELL, El Paso.

To Camp Dodge, Des Moines, Iowa, base hospital, from San Antonio, Lieut. EMILE C. SCHULZE, Shiner.

To Camp Hancock, Augusta, Ga., for duty, from Fort Oglethorpe, Capt. JOHN V. BLAKE, Floresville.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Cody, Lieut. GREEN L. REA, Mumford.

To Camp Logan, Houston, Texas, for duty, from Fort Oglethorpe, Lieut. WILLIAM H. BENNETT, Falfurrias.

To Camp Wheeler, Macon, Ga., base hospital, from Fort Oglethorpe, Capt. SHADROCK L. BOREN, Del Rio.

To Fort Oglethorpe for instruction, Major FREDERICK J. COMBE, San Antonio; Lieut. HOUSTON H. TERRY, Fort Worth; from Benbrook, Texas, Lieut. ROBERT BAILEY, Coleman.

To Fort Riley for instruction, Major CARL LOVELACE, Waco; Lieut. REUBEN W. JACKSON, Dallas; LEON W. NOWIERSKI, Yorktown.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station*, from Camp Logan, Capt. WILLIAM B. CARRELL, Dallas.

Honorably discharged, Lieut. DIMETRUS J. LOUIS, El Paso. On account of physical disability not incurred in line of duty, Lieut. ROBERT L. KURTH, Dallas.

Utah

To Boston, Mass., Harvard Graduate School of Medicine, for instruction, from Fort Riley, Lieut. CHARLES E. BRAIN, Salt Lake City.

To Jefferson Barracks, Mo., for temporary duty, Capt. ROBERT W. FISHER, Salt Lake City.

Vermont

To Fort Oglethorpe for instruction, Capt. NICHOLAS J. DELEHANTY, Rutland.

Virginia

To Camp Hancock, Augusta, Ga., base Hospital, from Camp Dodge, Capt. KENNETH D. GRAVES, Richmond.

To Camp Jackson, Columbia, S. C., base hospital, Lieut. JAMES M. HUTCHESON, Richmond. *To examine the command* for mental and nervous diseases, from Washington, D. C., Lieut. WILLIAM A. TRIVETTE, Petersburg.

To Camp Sheridan, Montgomery, Ala., for duty, from Lake Charles, La., Major WILSON E. DRIVER, Norfolk.

To Camp Gordon, Atlanta, Ga., for duty, Lieut. GEORGE F. HOLLAR, Dayton.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, Capt. DAVID L. KINSELVING, Abingdon.

To Camp Lee, Petersburg, Va., base hospital, from Camp Pike, Lieut. JOHN O. BOYD, Roanoke; from Richmond, Lieut. CARRINGTON WILLIAMS, Richmond.

To Camp Sevier, Greenville, S. C., base hospital, Capt. JOHN W. CARROLL, Lynchburg.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Fort Oglethorpe, Lieut. ALFRED B. GREINER, Rural Retreat.

To Fort Oglethorpe for instruction, Lieut. JOHN M. RATLIFF, Marvin.

To Newport News, Va., for duty, from Camp Lee, Capt. THOMAS C. FIREBAUGH, Harrisonburg.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. HUNTER McG. DOLES, Norfolk.

Washington

To Camp Sheridan, Montgomery, Ala., base hospital, from Fort Riley, Lieut. EARL R. BUSH, Fort Canby.

To Jefferson Barracks, Mo., for duty, from Camp Grant, Lieut. GEORGE I. HURLEY, Hoquiam.

To Mineola, L. I., N. Y., Signal Corps Aviation School, from Seattle, Capt. RICHARD W. PERRY, Seattle.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Pike*, Little Rock, Ark., base hospital, Lieut. HUBBARD T. BUCKNER, Seattle.

The following order has been revoked: *To Camp Kearny*, Linda Vista, Calif., base hospital, Capt. FOREST A. BLACK, Seattle.

West Virginia

To Camp Gordon, Atlanta, Ga., for duty, Lieut. ROBERT F. THAW, Sistersville.

To Camp Lee, Petersburg, Va., for duty, from Army Medical School, Lieut. JAMES M. SHULER, Welch.

To Fort Oglethorpe, base hospital, from Army Medical School, Lieut. RALPH LEM. WOODRUFF, Moundsville. For instruction, Capt. WILLIAM C. COVEY, Pemberton; Lieuts. JAMES M. FONTAINE, Charleston; WASHINGTON W. STONESTREET, Morgantown.

To Hoboken, N. J., for duty, Capt. HENRY W. ROLLING, Lost City.

Wisconsin

To Fort Oglethorpe for instruction, Capt. MAX STAEHLE, Manitowoc; from Fort Sill, Capt. WILLIAM E. KRAMER, Milwaukee; from New York City, Lieut. ADAM L. CURTIN, Milwaukee.

To Fort Riley for instruction, Lieuts. ALBERT R. BELL, Tomah; WILLIAM B. CORNWALL, Turtle Lake.

To New York City, Bellevue Hospital, for instruction, and on completion *to his proper station*, from Camp Wadsworth, Lieut. ERWIN G. LINKMAN, Milwaukee.

To Ann Arbor, Mich., Psychopathic Hospital, for intensive training, from Camp Dodge, Capt. JOHN M. CONLEY, Oshkosh.

To Boston, Mass., Harvard Graduate School of Medicine, for instruction, and on completion *to his proper station*, from Camp Pike, Capt. HOMER SYLVESTER, Montfort.

To Camp Gordon, Atlanta, Ga., base hospital, from Boston, Lieut. JOHN W. HANSEN, Milwaukee.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Cody, Lieut. HARRY E. GILLETTE, Packwaukee, from Fort Riley, Lieut. GEORGE E. LINDOW, Watertown.

To Fort Logan, Colo., for temporary duty, and on completion *to his proper station*, from Camp Taliaferro, Lieut. PAUL M. CLIFFORD, Green Bay.

To Fort Oglethorpe for instruction, Capts. WILLIAM D. HARVIE, Oshkosh; ARGO M. FOSTER, Racine; Lieuts. FRANK A. BOECKMANN, Greenwood; HOWARD M. RIPLEY, Kenosha; CORNELIUS N. STUESSER, Oconomowoc.

To Fort Riley for instruction, Lieut. INGEBRECT JERDEE, Madison.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Riley, Lieuts. EARLE F. McGRATH, Appleton; CARL C. BIRKELO, Rosholt; THOMAS F. LAUGHLIN, Winneconne.

To report by wire to the commanding general, Central Department, for assignment to duty, Capts. ERNEST C. GROSSKOPE, Milwaukee; CHARLES E. LAUDER, Viroqua.

To Rochester, Minn. Mayo Clinic, for instruction, and on completion *to Camp Bowie*, Fort Worth, Texas, base hospital, Lieut. JOHN E. B. ZIEGLER, Eau Claire. On completion *to his proper station*, from Camp Grant, Lieut. DONNE F. GOSIN, Green Bay.

The following order has been revoked: *To Fort Riley* for instruction, Lieut. ALBERT R. BELL, Tomah.

Wyoming

To Fort D. A. Russell, for duty, from Fort Sill, Lieut. OTTO K. SNYDER, Cheyenne.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Health Officers' Meeting.—At the meeting of the association of county and city health officers of Alabama, held in Birmingham, April 19, Dr. Judson D. Dowling, health officer of Birmingham and Jefferson County, was elected president, and Dr. John M. Lowrey, assistant city health officer of Birmingham, secretary and treasurer.

The State Association.—The annual session of the Medical Association of the State of Alabama was held in Birmingham from April 16 to 19, under the presidency of Dr. William D. Partlow, Tuscaloosa. At a patriotic meeting held on the evening of the second day, a service flag bearing 437 stars was presented to the association by Major James N. Baker, M. R. C. The following officers were elected: president, Dr. Isaac L. Watkins, Montgomery; vice president, for the northern district, Dr. Henry S. Ward, Birmingham; secretary, Dr. Henry G. Perry, Montgomery (reelected); treasurer, Dr. Jacob U. Ray, Jr., Woodstock (reelected); censors, Drs. Glenn Andrews, Montgomery, Samuel G. Gay, Selma, and Charles A. Thigpen, Montgomery; councilors, first district, Drs. Claude N. Lacey, Demopolis, John A. Kimbrough, Thomasville, and Percy J. Howard, Mobile; second district, Drs. John C. McLeod, Opp, and Russell A. Smith, Brewton; third district, Dr. George W. Williamson, Hartford; fourth district, Dr. Lee R. Wright, Heflin; eighth district, Drs. Alva A. Jackson, Florence, Hugh Boyd, Scottsboro, and Edwin V. Caldwell, Huntsville; ninth district, Dr. James M. Mason, Montgomery, and tenth district, Drs. William E. Howell, Haleyville, and Robert L. Hill, Winfield. A memorial session was held in honor of the late Dr. William H. Sanders, Montgomery, state health officer, at which appropriate resolutions were adopted.

DISTRICT OF COLUMBIA

Lectures on Public Health.—Surgeon-General Gorgas has arranged for a series of health talks to be given to civilian employees of the War Department, to be held Tuesday and Thursday afternoons in the auditorium of the Department of Interior Building. Among the lecturers are Col Frederick F. Russell, Lieut.-Col. William H. Welch, Elliott G. Brackett, Frank Billings and William H. Smith; Majors William J. Mayo, George L. DeSchweinitz, John R. Murlin and Leonard G. Mitchell; Kate B. Karpeles, acting assistant surgeon, U. S. Army; Miss Annie Goodrich, and Miss M. Sanderson.

ILLINOIS

Action in Regard to Venereal Diseases.—At its April meeting at Rock Island, the Rock Island County Medical Society passed a series of resolutions in which it urges the Secretary of War to create a military medical organization embracing every qualified physician, for the purpose of a continuous fight against venereal disease. A full outline of the purpose, duties, and method of procedure of such an organization was prepared and forwarded with the resolutions. This action is taken in cooperation with similar action by the medical faculty of the state university, the Iowa State Council of National Defense, and a number of county medical societies.

Chicago

Personal.—Mr. Peter Reinberg, president of the Cook County board of commissioners, has appointed Dr. Haim I. Davis assistant physician of the Cook County Psychopathic and Detention Hospital.

INDIANA

Hospital to be Taken Over.—Hope Hospital of Fort Wayne will be taken over immediately for operation under the direction of the Methodist Hospital, Indianapolis. Dr. Charles S. Woods, superintendent of the Methodist Hospital, will be superintendent of Hope Hospital, with an assistant actively in charge there.

Health and Defects Among Schoolchildren.—A meeting has been called by Dr. Herman G. Morgan, Indianapolis, secretary of the board, to devise means for a higher standard of physical health among schoolchildren. Investigation will be made of all schoolchildren in this city in order to find the number of children physically defective.

LOUISIANA

Personal.—Dr. Henry B. White, Lake Charles, medical inspector of the state board of health, has resigned.——Dr. Robert W. Faulk, city health officer of Monroe, fractured his arm recently while cranking his automobile.——Dr. William Schulze, formerly city health officer of Monroe, has resigned to accept the position of medical inspector for the Baltimore and Ohio system at Hagerstown, Md.

MARYLAND

Meetings.—A joint meeting of the Howard, Carroll and Baltimore County medical associations was held, May 15, at the Springfield State Hospital, Sykesville. The principal address was delivered by Dr. C. Hampson Jones of the state department of health, on "The Diagnosis of Smallpox." The members of the associations were guests of the hospital at luncheon.

Personal.—Dr. Herman F. McPherson of Centerville, Md., has been appointed health officer for Queen Anne's County and physician to the county jail.——Dr. Abbott R. Walker was recently appointed health officer for Frostburg, by the Frostburg city council.——Dr. Samuel J. Fort, Catonsville, major in the ordnance department, Maryland National Guard, has been drafted into the federal service and assigned to duty at the school of musketry established at Camp Perry, Ohio.

MASSACHUSETTS

Personal.—Dr. Timothy Leary, medical examiner for Suffolk County, recently fractured his right forearm while cranking his automobile.——Major Frederick L. Bogan, Boston, who was graduated from an officers' training school in France, has been appointed commanding officer of the One Hundred and Second Field Hospital. He has been with the American expeditionary forces since September, 1917.——John P. Reynolds, Boston, has been made a trustee of the Peter Bent Brigham Hospital, and Drs. David L. Edsall, Milton, and Joseph E. Lamoureaux, Lowell, members of the public health council.

MISSOURI

Personal.—Dr. Joseph B. Cowherd has resigned as physician in charge of the eye, ear, nose and throat work of the Kansas City school hygiene staff, and has been succeeded by Dr. Thomas T. Sawyer.——Dr. Abraham Weinberg, for eight years physician to the Kansas City General and Emergency hospitals, James I. Gyree, head of the contagious disease division of the Kansas City Board of Health, and Abraham Sophian, meningitis expert of the board, have resigned.

MONTANA

Antituberculosis Meeting.—At the annual meeting of the Montana Association for the Study and Prevention of Tuberculosis, held in Helena, April 18, Dr. A. D. McDonald, superintendent of the state tuberculosis sanatorium, Galen, delivered an address on the relation of the work of the sanatorium to that of the association.

NEW MEXICO

State Board Appointment.—Dr. Walter E. Kaser, Las Vegas, has been appointed a member of the state board of medical examiners, succeeding Dr. Rice K. McClanahan, Las Vegas, who resigned to enter the naval reserve.

NEW YORK

Personal.—Dr. Grace A. B. Carter obtained the highest mark in the competitive examination for city physician of Rochester, held February 28.——Dr. Anna I. von Sholly, Flushing, who went to Europe with the Woman's Overseas Hospital, U. S. Army, is now on duty with the Service de Santé behind the French lines.——Dr. Vittorio Risicato, Albany, is now a captain in the Italian Medical Service and on duty with field hospital O 165 at the front.——Dr. Arthur W. Hurd, medical superintendent of the Buffalo State Hospital, has resigned and will reside in California.——Dr. Frank W. Ross, Elmira, is seriously ill with pneumonia at his home.

The Buffalo Academy of Medicine Protests Against Attitude of American Red Cross Toward Research Work.—At

a meeting called for the purpose of considering the action of the American Red Cross in revoking its decision to appropriate money for animal research work, the Buffalo Academy of Medicine decided to transmit its protest to the American Red Cross, to the local Red Cross and to the medical journals. In this protest it states that Red Cross money could not be better used than in the establishment of a biologic laboratory near the war zone for the study of the diseases of soldiers, particularly those of trench warfare, and thus through animal experimentation probably save the lives of thousands of soldiers. It also contends that this decision of the Red Cross, made in compliance with the wishes of an intolerant minority of its supporters, may be establishing a precedent with far reaching detrimental results, and it urges the medical profession to resist fettering influences such as that which caused the Red Cross to withdraw its support from animal research.

Whitney Measure to Control Venereal Diseases.—The Whitney bill, said to be the most drastic health measure ever enacted by any state, went into effect, May 5. The bill was passed at the request of the federal government and is designed to protect soldiers and sailors against venereal diseases. This bill provides for the arrest and detention of persons afflicted with venereal disease during treatment. The enforcing of the law is placed mainly in the hands of local health boards. The New York City Health Department has taken immediate steps to assist in the enforcement of this law by sending health department officials to the night court. All prisoners will be held for diagnosis. After that, those found to be suffering from venereal disease will be held in city hospitals, or may be released at the discretion of the health authorities on guarantees that they will receive treatment. Men as well as women are being arrested. The state health department, in cooperation with the federal authorities, has outlined an extensive program which, in addition to necessary educational features for both physicians and the public, includes provisions for increased diagnostic facilities, for the manufacture and free distribution of arsphenamin (salvarsan) or one of its substitutes, for free advice and treatment of infected persons unable to pay for it, and for the taking of steps to secure greater hospital facilities for those in need of such care or for those who would otherwise be a danger to the community.

New York City

Tablet Given Society.—At the meeting of the Kings County Medical Society, April 16, Dr. Lewis S. Pilcher presented to the society a plaster cast of the tablet erected 600 years ago in the church of San Vitale, Bologna, Italy, by Mundinus di Luzzi, the anatomist.

Personal.—Dr. Abraham Jacobi, "The Grand Old Man of Medicine," celebrated his eighty-eighth birthday, May 5. He is still actively engaged in the practice of medicine.——Dr. A. J. Kemp was a passenger on the steamship *City of Athens*, which was rammed and sunk by a French war vessel off the coast of Delaware, May 1.——Dr. Frederick S. Kolle fell from a window of his residence in Brooklyn, April 23, fracturing his skull and both patellas.

Columbia University Lengthens Medical Course.—A resolution presented by the Columbia faculty of medicine, adding a clinical year to the medical curriculum, has been adopted by the trustees of the university. A plan for the fifth year has been outlined whereby there will be a redistribution of clinical subjects, which will be transferred to the final clinical year. The clinical year will be conducted under college discipline, and will be made effective for the class entering in September, 1918.

New Base Hospital Completed.—The United States Base Hospital at Fox Hills, Staten Island, is completed and ready to care for wounded soldiers. This hospital is said to be the largest on the Atlantic coast and has been erected in record time. It was started ninety days ago, within which time seventy-five buildings have been completed. Among the buildings are three hospital buildings equipped with 1,000 beds each. Major C. A. Simons is in charge of the hospital. It is reported that the government has plans for doubling the size of the hospital.

Roosevelt Hospital Unit.—The annual report of the Roosevelt Hospital, just made public, describes the work of the Mackay Unit of the Roosevelt Hospital in France, where it has recently had under treatment 3,200 patients. Dr. Charles H. Peck, major, M. R. C., is director of the unit; Dr. James I. Russell, major, M. R. C., is chief of the surgical staff and Dr. Rolfe Floyd, major, M. R. C., is chief of the medical staff. Twenty other members of the visiting and house staffs of the hospital are with the unit, also sixty-five nurses and picked men from other professions and trades, which number brings the personnel of the unit up to 150.

Halt Health Department Investigation.—Announcement has been made by James E. McBride, civil service commissioner, that the health department inquiry has been indefinitely postponed and that future investigation will be in the hands of the health commissioner, Dr. Royal S. Copeland. Dr. Sigismund S. Goldwater sent in his resignation as a member of the advisory board of the department of health. This Dr. Copeland has refused to accept and signifies his intention of retaining both Dr. Goldwater and Dr. Abraham Jacobi. Dr. Charles F. Bolduan has sent in his resignation as director of the bureau of public health education, which has been accepted.

Volunteer Nurses.—Shortage of nurses has resulted in the placing of volunteer assistants in seven of the city's large hospitals, Bellevue, Presbyterian, St. Luke's, Vanderbilt Clinic, the Lying-In, Gouverneur, and the Italian. To train women for this service, a new course has been arranged for hospital clinical assistants by Teachers' College in cooperation with the Bellevue Social Service, the Federation for Child Study, and the People's Institute. The course will give special training in child hygiene, nutrition and related subjects. It is pointed out that the employment of these clinical assistants not only helps out the shortage of nurses but results in a great saving of time to the physicians, of whom there are now none too many in the hospitals. In order to speed up the training of public health nurses, the Red Cross has given the Henry Street Settlement $25,000. The Henry Street course will be open to three-year undergraduate nurses and the course will continue from June 1 to September 1.

Older Physicians Needed in Dispensaries.—At a recent meeting of the New York Academy of Medicine, Dr. Charles L. Dana, chairman of the public health committee, brought to the attention of the members the fact that the withdrawal of physicians from civil life into military service has created a shortage of men in the dispensaries of this city, resulting in a curtailment of the services of these institutions. When further calls were made on the medical profession, the dispensary service would be still further decreased unless steps were taken to provide substitutes. Dr. Dana stated that this problem had arisen in Boston and had been met by appealing to the older men in the profession, who had passed beyond the dispensary stage and who, because of age or for other reasons, were not available for military service. These men were asked to volunteer for dispensary duties as their contribution to the war. A similar appeal was now made to the older physicians in New York to come forward and help out in the dispensaries.

NORTH CAROLINA

New Health Editor.—April 15, the state board of health announced the appointment of Donald B. Wilson as health editor for the board.

Health Officers' Meeting.—At the eighth annual meeting of the North Carolina Health Officers' Association, held in Pine-Hurst, April 15 and 16, Dr. J. Rufus McCracken, Waynesville, was elected president, Dr. D. F. Long, Lexington, vice president, and Dr. George M. Cooper, Raleigh, secretary-treasurer.

New State Society Officers.—At its sixty-fifth annual meeting held in Pinehurst, from April 16 to 18, under the presidency of Dr. Isaac W. Faison, Charlotte, the Medical Society of the State of North Carolina decided on Pinehurst as the meeting place for 1919. It elected Dr. Cyrus Thompson, Jacksonville, as president, and reelected Dr. Benjamin K. Hays, Oxford, as secretary-treasurer.

NORTH DAKOTA

Now in Government Service.—Former employees of the state laboratory, W. W. Hanford, bacteriologist and chemist, and G. E. Richardson and B. C. Ford, bacteriologists, now belong to the United States Sanitary Corps.——Edwin M. Santon, formerly bacteriologist of the St. Mary's Hospital, Detroit, Mich., has been appointed bacteriologist in charge of the Bismarck station.

OHIO

State News.—Plans for the construction of a contagious diseases hospital to cost $6,000 are being arranged at Lorain.

——The Ohio Supreme Court has upheld a hospital bond issue of $35,000, at Circleville, which was attacked on a technicality.——At Ravenna, the Visiting Nurse Association, during the week of March 18, raised funds to the amount of $2,000. ——The Mississippi Valley Conference on Tuberculosis will meet in Columbus in September, at which time and place the Ohio Society for the Prevention of Tuberculosis will also meet.——Dr. Albert C. Carney was recently elected president of the Hamilton Antituberculosis League.

PENNSYLVANIA

Philadelphia

University Hospital Unit Arrives.—May 6, news was received of the safe arrival in England of the United States Base Hospital Unit No. 20, recruited by the University of Pennsylvania and under the directorship of Major John B. Carnett.

Personal.—At the meeting of the Atlantic County Medical Society, Atlantic City, May 10, Major William M. L. Coplin, M. R. C., delivered a lantern slide demonstration showing "the care of wounded from trench along the line of communication to base hospital." Dr. Pascal B. Bland gave an illustrated address on a "General Consideration of Uterine Cancer with Special Reference to Its Diagnosis."

Tablet to a Physician.—In memory of Earl C. Peck, who died Sept. 5, 1916, from infantile paralysis contracted in the course of his duties at the outbreak of the epidemic, a tablet has been placed in the corridor of the administration building of the Philadelphia Municipal Hospital for Contagious Diseases. Dr. Peck was the first assistant physician in the scarlet fever ward of that institution, and on the appearance of infantile paralysis was assigned to the supervision of the department in which such cases were received. While engaged in the work, Dr. Peck contracted the disease. The tablet was erected from a fund raised by a number of friends.

TENNESSEE

Hospital Enlarged.—The hospital of the Tennessee Copper Company at Copperhill, Tenn., is being enlarged so that patients besides the employees of the company may have the service of the hospital. The physicians connected with the hospital are Dr. Chauncey W. Strauss, chief surgeon, and Dr. Thomas J. Hicks.——Dr. Charles G. McMahon, formerly of Copperhill, has located at Miami, Ariz.

VIRGINIA

Personal.—Dr. Richard W. Garnett, formerly of Charlottesville and recently health officer of Fauquier County, has accepted a position on the state board of health as an inspector of contagious diseases.

Typhoid Clinic.—At Richmond, the health department has opened a free clinic for the examination of citizens and the giving of antityphoid vaccine. The clinic is located in the health department and is open each day from 8:30 to 9:30 a. m. May 10, there were eight cases of typhoid fever in the city. All of the patients, it is believed, contracted the disease outside.

For a Base Hospital.—The property of the Richmond and Westhamptom College at Westhampton will be taken over by the United States government for the establishment of a base hospital. This action has the consent and approval of the college authorities, who are making the arrangements elsewhere for the conducting of the college classes. All the laboratory facilities of the college likewise are to be turned over to the government.

Vital Statistics and Midwives.—Previous to this year, Virginia had no law providing for and regulating midwives. The legislature of 1918, however, has passed a law for this purpose and the bureau of vital statistics of the state department of health has perfected and sent out to the physicians and to the midwives circulars of instructions in regard to the requirements of the law for reporting births, for using the drops to prevent blindness, etc. The pamphlet contains instructions for midwives in regard to the care of women during confinement, and a pledge card to be signed by those applying for licenses as midwives by which they agree to comply, in all respects, with the law for reporting births within ten days. The circulars of information also contain suggestions for registrars, undertakers, and for the public in regard to the importance of reporting births and deaths. The license permit issued to midwives has on the back ten fundamental rules to guide them in caring for women during confinement. It is expected that the result of this campaign will greatly improve the facilities for compiling the vital statistics of the state.

CANADA

University Admits Women.—McGill University has opened its doors to women. They are henceforth to be admitted to the study of medicine and dentistry. Those to be admitted hereafter must have a degree in arts from a recognized university, or must take the double course of B.A. and M.D., or B.Sc. and M.D.

Personal.—Capt. Frederick C. Harrison, C.A.M.C., Toronto, is now employed in connection with the medical service of the Royal Air Force in that city.——Major Harry H. Alger, Stirling, Ont., who has been overseas, has gained his lieutenant-colonelcy, and has served in various capacities in England and France. He has recently been appointed assistant inspector of drafts, headquarters' staff, Shorncliffe area. ——Lieut.-Col. John N. Gunn, C.A.M.C., who practiced in Calgary, Alta., as an eye specialist, is in Toronto on sick leave, convalescing from trench fever. He says that General Porter, director of the British medical service in France, paid a glowing tribute to the work of the Canadian Army Medical Corps. Never before in the history of the war had such dispatch been shown by stretcher bearers as that shown at Paschendaele. There has never been a complaint from any branch of the Canadian force about the work of the C.A.M.C.

Canadian Medical Week.—Canadian medical week will be celebrated in Hamilton, Ont., from May 27 to June 1, when a congress of Canadian organizations, including the Ontario Health Officers Association, the Canadian Public Health Association, the Canadian Association for the Prevention of Tuberculosis and the Canadian Medical Association, will assemble under the auspices of the Ontario Medical Association. The combination has been made in the interests of war time efficiency. The sessions will be held at the Royal Connaught Hotel. The first two days will be occupied by the programs of the two health associations, the third by the program of the Canadian Association for the Prevention of Tuberculosis, and the last three days, by the joint program of the two medical associations. Among the interesting events scheduled on the joint program are two addresses, one on "Cancer," by Dr. Charles H. Mayo, president of the American Medical Association, and one on "Medical Impressions of the Day," by Dr. Frank Billings of Chicago. The last day of the congress, Drs. Mayo and Billings will also conduct a combined medical and surgical clinic on the subjects of simple and toxic exophthalmic goiter, anemias, and focal infections. Other noteworthy features of the congress will be the meetings of the various sections, a round table discussion on a subject of vital interest to the profession, business sessions of the different organizations, class reunions and sectional dinners, and a varied display of scientific exhibits. The last feature includes a series of moving pictures shown daily on medical subjects, especially those dealing with war surgery; an exhibit of roentgen-ray plates; a pathologic exhibit of museum specimens taken largely from the National War Museum of Canada; a demonstration of clinical laboratory procedures, and a display of charts, illustrations and literature from the propaganda department of the American Medical Association, together with a lantern slide demonstration of the work of the Association.

GENERAL

Society Meeting.—The twenty-third annual meeting of the American Academy of Ophthalmology and Oto-Laryngology will be held in Denver, August 5, 6 and 7. Dr. Lee Masten Francis, 636 Delaware Avenue, Buffalo, is the secretary.

Clinical Society Organized.—The seventh annual clinic of the John A. Andrew Memorial Hospital, Tuskegee, Ala., closed, April 13, with the formation of the John A. Andrew Clinical Society, which elected Dr. Charles V. Roman, Nashville, Tenn., president; Dr. Charles W. Powell, Atlanta, Ga., vice president, and Dr. John A. Kenney, Tuskegee, secretary-treasurer.

Colored Professional Men Hold Conference.—The annual meeting of the Tri-State Medical, Dental and Pharmaceutical Association was held at Memphis, Tenn., from April 9 to 11, under the presidency of Dr. J. H. Howard, and the following officers were elected: president, Dr. Joseph H. Barabin,

Marianna, Ark.; vice presidents, Drs. Milton V. Umble, Oakland, Tenn.; J. T. Brasfield, Isaac Carroll, F. T. Jones and W. T. Sherrett, Memphis, Tenn.; corresponding secretary, Dr. Robert G. Martin; recording secretary, Dr. Robert B. Pruett, Jackson, Tenn., and treasurer, Dr. S. W. Pope.

Association of American Physicians.—At the recent meeting of the Association of American Physicians, May 7 to 11, the following officers and new members were elected: officers for 1918-1919: president, Dr. Alexander McPhedran, Toronto, Ont.; vice president, Dr. Hermann M. Biggs, New York; secretary, Dr. Thomas McCrae, Philadelphia; recorder, Dr. William W. Ford, Baltimore; treasurer, Dr. Joseph A. Capps, Chicago; councilors, Dr. Theobald Smith, Princeton, N. J., and Dr. Charles F. Martin, Montreal, Que. Active members: Drs. Frederick M. Allen, W. H. Brown, Haven Emerson, Theodore S. Hart, New York; Frank T. Fulton, Providence, R. I.; James D. Heard, Pittsburgh; Thomas Ordway, Albany, N. Y.; George M. Piersol, Philadelphia; Henry S. Plummer, Rochester, Minn.; Gerald B. Webb, Colorado Springs, Colo; Solon M. White, Minneapolis; Simeon B. Wabbach, Boston. Associate members: George Draper, Reginald Fitz, New York; Joseph S. Evans, Madison, Wis.; Herbert Z. Giffin, Rochester, Minn.; Martin E. Rehfuss and John H. Musser, Philadelphia. The 1919 meeting will be held in Atlantic City during May.

FOREIGN

The Italian Weeklies.—The *Riforma Medica, Gazzetta degli Ospedali* and the *Policlinico* now reach us without any cover and minus the advertising pages. A notice states that the authorities have ordered that from now till the end of the war, journals to be sent out of the country should be made up without any advertising pages.

College of Ambulance.—The College of Ambulance in Vere Street, London, has been in existence five years and 20,000 students have passed through it. They have been trained for ambulance and first aid work in military and civil practice. Through the efforts of Sir James Cantlie and Sir James Reid, it is hoped to have a chair of ambulance founded in the University of London, and affiliated with the medical schools.

Repression of Venereal Diseases in Spain.—A royal decree dated March 15, 1918, outlines a system for antivenereal dispensaries throughout the country and medical inspection of prostitutes with hospital care for venereal diseases. The dispensary and hospital service is gratuitous, and the expenses are to be shared by the town, district and state authorities. The military commander in the district is to be a member of each Junta provincial de Sanidad in charge of the campaign against venereal diseases.

Pneumonic Plague.—Dr. Charles W. Young, dean of Union Medical College, Peking, China, has gone to Shansi, taking with him Dr. Chang of the staff of the college, who has had experience in work with the plague in Tientsin. His mission is educational, and he hopes to persuade the governor of the province to stop traffic on the Hwang-Ho River which flows through Saratsi where pneumonic plague is very prevalent. In one town north of the Great Wall, it is said that 1,000 persons died from the disease in five days.

Repatriation of Members of Medical Corps.—The *Presse Médicale* of April 18 states that arrangements have been concluded according to which medical officers, nurses and others covered by the Geneva convention are to be repatriated regularly every two months. The first trainload had already left Constance, and the next is to leave Lyons next month. If the registers and archives of the *formations sanitaires* to which they belonged have been destroyed, the statement of the government to which they belong will be accepted as certifying to the probable correctness of their claims to be of the medical force.

Medical Inspection of Schools in Spain.—The minister of public instruction in Spain has obtained from the king a decree establishing medical inspection of schools in Madrid and Barcelona. There are to be ten inspectors at each place, and the salary is to be 3,000 pesetas annually, about $600, but as only 25,000 pesetas ($5,000) has been appropriated for the purpose, the inspectors are expected to serve without pay until the next budget is made up. The positions are to be filled by competitive examinations in each city; at least five years of practice are required. A *Boletin de la Inspeccion Medicoescolar* is to be issued, to publish the reports of the inspectors and their suggestions. According to *Esculapio*, forty-three candidates have registered at Madrid and thirty-two at Barcelona.

LONDON LETTER

London, April 23, 1918.

Physicians and the Military Service Bill

The new military service bill extends the obligation for military service to all British subjects who have not attained the age of 51 years. In the case of physicians the obligation extends to those who have not attained the age of 56 years. In consequence of the shortage of physicians now left in civil practice, the withdrawal of still more is a serious matter. Sir Auckland Geddes, the minister of national service, stated in parliament that there are districts in which, as the result of the withdrawal of physicians, the supply available is very short, and the young man that is fit is as necessary as in the trenches, and is working practically as hard day and night. It is no good putting an old man who does not know the district and does not know the people into that position. Unsatisfactory medical attendance and the collapse of the physicians would result. It has been tried. In the medical profession, youth and fitness are now required for certain districts at home just as much as at the front. But there are great base hospitals where the work is not normally very hard, so the government is considering whether it cannot make use of some of the older physicians. It has surveyed the whole country. It has plotted out in every town the number of physicians available and the number of the population they may have to look after, and it finds that there are in some of the more comfortably off residential cities, not the great manufacturing cities, but cities in which a retired class live, physicians of from 50 to 54 that are in excess of local requirements. They have comparatively speaking, a small number of possible patients at any time. These men can go without dislocating either the public health service or the ordinary service of attendance on the sick, and they are sufficiently fit for work in the base hospitals. The question is to meet the medical demand for the forces of the army in the way that will make least disturbance at home and without doing harm to the civil population. Physicians are always coming back from overseas to their practices to release a partner, or something of the sort. If physicians were moved from town A to town B so as to replace those who had gone into the service, an enormous amount of trouble would be created and problems raised as to the adjustment of practices and compensation for removal, which can be avoided.

More German Brutality to Prisoners

In a recent letter (The Journal, March 23, 1918, p. 867) was described the organized German brutality to British prisoners captured in the early stages of the war. It was there remarked that subsequently the treatment of British prisoners, though leaving much to be desired, had improved, principally because we had a large number of German prisoners in our hands. Unfortunately, from time to time fresh outbreaks of barbarity of the worst kind have to be recorded. All England has been horrified by the account of the British sailor who was bayoneted by the German sentry because he was trying to escape from the flames of his burning prison. The German government has had the effrontery to give as an excuse that the sentry could not allow the man to escape because there was no officer present to authorize him! We have now another record of systematic cruelty in a report just issued by the Government Committee on the treatment of British prisoners of war, signed by the chairman, Mr. Justice Younger. It has been communicated through the Dutch to the German government. Overwhelming evidence has been received that: 1. British prisoners of war were employed within 30 kilometers of the firing line at least as early as July, 1916, that is, a considerable time before the German government denied that such employment had commenced and sought to justify it as an act of reprisal. 2. These prisoners were treated with the utmost brutality, and most of the deaths at Dulmen attributed by the Germans to such causes as heart weakness and intestinal catarrh were, in fact, directly due to starvation and ill treatment on the western front. 3. Although an agreement was concluded between the British government and the German government at the end of April, 1917, not to employ prisoners of war within 30 kilometers of the firing line, British prisoners were, up to the time of the most recent information, being employed within that limit. 4. British prisoners were treated with extreme brutality on the western front, being forced to work on totally insufficient food, until rendered useless owing to extreme weakness. They were employed on work directly barred by Article 6 of the Annex to the Hague convention,

such work being immediately connected with the operations of war. These men continued to arrive during the autumn and winter of 1917 at hospitals and camps in Germany in a state of misery and semistarvation. Although the fact had never been acknowledged, but on the contrary studiously concealed, there is no doubt that since as early at the latest as August, 1916, the Germans have been systematically employing prisoners on forced labor close behind the firing line, thus deliberately exposing them to the fire of their own guns. As usual, when conduct incapable of justification has been brought to light, the official German apologist has endeavored to gloss over it by asserting that Germany was driven to it by way of retaliation for similar treatment of German prisoners. The allegation is unfounded. The British prisoners were placed all the way along behind the German front in Belgium and France, large numbers being stationed at Cambrai and Lille. Their work included making roads, repairing railways, digging trenches, constructing wire entanglements, making gunpits, loading ammunition, filling munition wagons, and carrying trench mortars—work forbidden by the laws of war. The work, excessively hard, lasted from eight to nine hours a day, with long walks to and fro, sometimes 6 miles in each direction, and for long periods was carried on within range of the guns of the Allies. Many were killed by these guns; more were wounded; deaths from starvation and overwork were constant. Appalling evidence is given concerning the systematic semistarvation of the prisoners. "We used to beg the sentries," said a witness giving evidence as to conditions at Marquion, "to allow us to pick stinging nettles and dandelions to eat, we were so hungry; in fact, we were always hungry." Another witness from Cambrai said: "If it had not been for the French civilians giving us food as we went along the roads, we should most certainly have starved. If the sentries saw us make a movement out of the ranks to get food they would immediately make a jab at us with their rifles." But it was worse at Moretz, where "if a man stepped out of the ranks he was immediately shot. . . . Two instances are given in the evidence of men who weighed 13 st. [a stone is 14 pounds] when captured. One was sent back from the firing line too weak to walk, weighing 8 st. only; the other escaped to the British lines weighing no more. Another man lost 2 st. in six weeks. Such was their hunger that we hear of them picking up for food potato peelings that had been trampled under foot. One instance is given of an Australian private who, starving, had fallen out to pick up a piece of bread left on the roadside by Belgian women for the prisoners. He was shot and killed by the guard for so doing. The parcels, on which British prisoners so much depend, did not reach these prisoners for the reason that their presence in occupied territory was not acknowledged by the German government. When they wrote home they were required to give some prison camp in Germany as their address. Sometimes their very existence was concealed for months. To add to their miseries, the accommodation provided was in many cases pathetically inadequate. One sleeping place, for instance, for a large party was a barn with no roof. The rain poured in on the men. They had to sleep in their wet clothes and work in the same clothes. They had no change of any kind. And some of these prisoners, if they survived so long, were kept behind these enemy lines for more than a year. When utterly worn out they were sent to Germany.

PARIS LETTER

PARIS, April 11, 1918.

Valvular Disease of the Heart from Military Standpoint

At a recent meeting of the Société médicale des hôpitaux de Paris, Dr. Paul Lafosse read a very interesting paper on this subject. Supported by many observations, he has been able to confirm the great tolerance, even indifference, to fatigue at the front of men affected with valvular lesions. These observations appear to show conclusively that there is no reason whatever for definitely excluding from the military service men who have valvular lesions. Lafosse claims that auxiliary service is compatible with the well-being of nearly all of these men, whether their condition was congenital or acquired. Nevertheless, according to the degree, the age and the manner in which the heart responds to the demands made on it, will depend the nature of the auxiliary service and whether this will be rendered at the front or in the interior.

In the discussion of this paper, Dr. Josué, physician to the hospitals of Paris, stated that all physicians have had occasion to note that individuals presenting irrefutable evidence of valvular lesions have, nevertheless, been able to lead very active lives without any functional disturbance. As a matter of fact, however, because of the existence of the valvular lesion, the fitness of the individual is more or less impaired. Josué has confirmed this observation daily among a very large number of subjects submitted to examination and to a special military consultation at the hôpital de la Pitié, but he says that it will be difficult to lay down absolutely uniform rules. A number of persons affected with a valvular lesion are able to perform very important work, provided one knows of what they are capable and without imposing on their strength, and allowing them to have periods of rest. Therefore, it is proposed to certify for auxiliary service all patients having never presented any symptoms, from their valvular disease, and also those with a lesion not well marked and perfectly compensated. In some cases the lesion is very slight, noticeable only after violent efforts, and these persons should be recommended for auxiliary service, stating precisely how they should be managed, that they are not fit for heavy work, and that they should be under constant medical supervision. If the man presents any symptoms, such as slight dyspnea, fatigue, etc., which it is believed will disappear after rest and treatment, the man should be invalided temporarily. In cases of marked disturbance, threatening loss of compensation, or complete arrhythmia, the patient should be discharged from service.

Vocational Training of the Disabled, and the Teaching Personnel

According to the law bearing on the reeducation of the *mutilés* passed in January, 1918, all soldiers and sailors, or former soldiers and sailors, who have been wounded or who contracted disease, or whose illness was aggravated during the present war, may demand to be enrolled in a school of vocational reeducation for the purpose of being trained to work again, and be helped to secure a position. With the consent of the premier, the minister of war and the commissioner general of *les oeuvres d'éducation professionnelle des mutilés*, the minister of public instruction has addressed a circular to the teaching personnel in which he points out in a striking manner the necessity of keeping in mind the importance of the reeducation, for the men themselves and for their families. By profiting by the training the disabled man is shielded from the depressing effects of idleness; he resumes his place in *l'activité nationale;* he escapes the risks of a temporary placement, due to passing circumstances; he escapes the mirage of a public office—the number of political positions is limited, and their security does not compensate for the poor remuneration. Often, too, this reeducation makes it possible for him to secure a better position than that which he had held previously. One can no longer count the *mutilés* who, having learned a new trade or having perfected themselves in the one they followed before the war, are now leading a much ampler existence. All this, it must be said again and again, is in the interest of the wounded, their families and their country.

The minister stated that he is ready to study all the suggestions presented by any of the teaching personnel in the institutions for the purpose in the line of improving the general or vocational training of the disabled.

Marriages

LIEUT. LECKY HARPER RUSSELL, M. R. C., U. S. Army, of Columbus, Ohio; on duty with the One Hundred and Forty-Seventh Field Hospital Corps, U. S. Army, stationed at Camp Sheridan, Montgomery, Ala.; to Miss Carita L. Kimball of Lawrence, Mass., at Covington, Ky., May 2.

CAPT. JOHN VAUGHN BLAKE, M. R. C., U. S. Army, Floresville, Texas, on duty as battalion inspector at Camp Greenleaf, Ga., to Miss Mary Long, Del Rio, Texas, at Chattanooga, Tenn., April 13.

JOSEPH T. SCOTT, Williamstown, Ky., to Mrs. Helen J. White, Cincinnati, at Lawrenceburg, Ind., about May 3.

LIEUT. MCIVER WOODY, M. R. C., U. S. Army, Boston, to Miss Regina Llewellyn Jones of Chestnut Hill, recently.

ASST. SURG. LIEUT. RUDOLPH HEYM, JR., GR., U. S. Navy, to Miss Mary DeWeese, both of Cleveland, May 2.

PAUL M. HUNSICKER, to Miss Jennie E. Wear, both of Beaver Meadow, Pa., at Allentown, Pa., April 29.

Deaths

Lieut. John Paul Rosenwald, M. C., Minn. N. G., Minneapolis; John A. Creighton Medical College, Omaha, in 1910; aged 33; a Fellow of the American Medical Association; March 26 he received the Distinguished Service Cross, given by the French government on account of services rendered during the fighting on the Luneville sector; twice entered a battery position under heavy fire in order properly to care for the wounded; killed by shellfire in the Luneville sector, about May, 1918.

Paul Nathan Litchfield, Camden, N. J.; Jefferson Medical College, Philadelphia, 1895; aged 44; formerly a member of the New Jersey House of Assembly; formerly coroner of Camden; a member of the staff of the Tuberculosis Hospital at Ancora, and the County Hospital for the Insane at Blackwood; died at his home, May 1, from pneumonia.

William Beverley Pettit, New Canton, Va.; University of Maryland, 1883; aged 64; formerly a Fellow of the American Medical Association; a member of the Medical Society of Virginia; formerly surgeon at the Richmond Plant of the American Locomotive Company; died, April 27, from a gunshot wound, self-inflicted, it is believed.

Frank Judson Bardwell, Tunkhannock, Pa.; Yale University, Medical Department, New Haven, Conn., 1891; aged 49; a Fellow of the American Medical Association; formerly president of the Tunkhannock Board of Health; died at the Robert Packer Hospital, Sayre, Pa., April 12, from empyema of the gallbladder.

Frederick Blume, Pittsburgh; University of Gottingen, Germany, 1896; aged 68; a member of the Medical Society of the State of Pennsylvania; a member of the American Association of Obstetricians and Gynecologists; a member of the medical staff of the Allegheny General Hospital; died at his home, April 14.

Lieut. John Deming Arnett, M. R. C., U. S. Army, Albany, N. Y.; Albany (N. Y.) Medical College, 1914; aged 29; a Fellow of the American Medical Association; on duty with the Ninety-Ninth Field Ambulance, British Royal Army Medical Corps, on the French front; was killed in action, April 16.

Walter Sewell Wheeler, Kansas City, Mo.; Jefferson Medical College, Philadelphia, 1885; aged 57; a member of the Missouri State Medical Society; for many years city health commissioner, and professor of therapeutics in the University Medical College of Kansas City; died at his home, April 24.

John Nicholas Helmke, Louisville, Ky.; University of Louisville, Medical Department, 1873; Hospital College of Medicine, Central University, Louisville, 1875; aged 83; also a druggist; a veteran of the Civil War; died at his home, April 19, from bronchial pneumonia.

Frederick B. Kobisk, Lombard, Ill.; Jenner Medical College, Chicago, 1906; aged 39; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; was instantly killed, April 25, when a train crashed into his automobile.

Charles Orville Bechtol, Marion, Ind.; University of Illinois, College of Physicians and Surgeon, 1901; aged 43; a Fellow of the American Medical Association; died at his home, April 21, from paralysis, resulting, it is said, from the effects of ptomain poisoning.

Reuben Gardner Moore, Vincennes, Ind.; Cincinnati College of Medicine and Surgery, 1861; aged 81; also a pharmacist; formerly president of the board of trustees of Vincennes University; died at his home in Burnett Heights, April 23, from cerebral hemorrhage.

Peter Thompson Kilgour, Cincinnati, Ohio; Pulte Medical College Hospital, Cincinnati, 1892; aged 57; dermatologist to the Home of the Friendless, Cincinnati; died suddenly as he was entering the Mount Healthy M. E. Church, April 24, from cerebral hemorrhage.

Capt. Clement Edwin Laws, M. R. C., U. S. Army, Tacoma, Wash.; Medical College of Ohio, University of Cincinnati, 1899; aged 36; a Fellow of the American Medical Association; on duty at Camp Dodge; died in a local hospital, April 21, from spinal meningitis.

Albert Le Roy Fisher, Elkhart, Ind.; Hahnemann Medical College and Hospital, Philadelphia, 1871; aged 72; formerly a member of the Indiana State Medical Association; died at his home, suddenly, April 23, from cerebral hemorrhage.

Dwight Welcome Dryer, LaGrange, Ind.; Rush Medical College, Chicago, 1885; aged 61; formerly a Fellow of the American Medical Association; a member of the Indiana State Medical Association; formerly health officer of LaGrange County; died at the home of his daughter, April 25.

Adam H. McCullough, Mansfield, Ohio; Jefferson Medical College, Philadelphia, 1875; aged 67; a Fellow of the American Medical Association; surgeon of the Erie Railroad Company, also a druggist; died at his home, April 20, from pernicious anemia.

John Alexander Galbreath, Pottstown, Pa.; University of Pennsylvania, Philadelphia, 1911; aged 33; a Fellow of the American Medical Association; died at the home of his mother in Lansdowne, Pa., April 13, from pneumonia.

Gideon A. Embry, Irvine, Ky.; Jefferson Medical College, 1867; aged 79; a member of the Kentucky State Medical Association; secretary of the Estill County Medical Society; died at his home, February 5, from senile debility.

James E. Henderson, Springfield, Ill.; Northwestern University Medical School, 1883; aged 62; a colored practitioner; was found dead in his office, April 12, from gunshot wound, self-inflicted, it is believed, with suicidal intent.

Charles Edward Lee, St. Paul; Columbia University, College of Physicians and Surgeons, 1866; aged 76; formerly a member of the Minnesota State Medical Association; died suddenly at his office in Los Angeles, April 23.

John Fred Cleveland, Le Roy, N. Y.; Bellevue Hospital Medical College, New York City, 1865; aged 86; a member of the Medical Society of the State of New York; a veteran of the Civil War; died at his home, April 16.

Frank Grove McKelveen, Denver; Western Pennsylvania Medical College, Pittsburgh, 1892; aged 49; a member of the Colorado State Medical Society; died in St. Anthony's Hospital, April 21, from pneumonia.

Elmer E. Barton, Lafayette, Ind.; University of Wooster, Medical Department, Cleveland, 1878; aged 67; for many years engaged in historical writing; died in a sanatorium in Lafayette, April 18, from Bright's disease.

Warren Newell, Okmulgee, Okla.; Starling Medical College, Columbus, 1888; aged 54; formerly a member of the Oklahoma State Medical Association; formerly a practitioner of Idaho; died at his home, April 13.

Gabriel H. Watkins, Hollow Rock, Tenn.; University of Tennessee, Nashville, 1877; aged 72; formerly a Fellow of the American Medical Association; a veteran of the Civil War; died in Clear Water, Fla., April 13.

Oscar H. Rockwell, Monroeton, Pa.; University of Pennsylvania, Philadelphia, 1873; aged 74; a member of the Medical Society of the State of Pennsylvania; died suddenly at his home, April 16, from paralysis.

George Frederick Brooks, New York; University Medical College, New York, 1880; aged 59; a Fellow of the American Medical Association; and the New York Academy of Medicine; died at his home, April 26.

James W. Wideman, Due West, S. C.; Medical College of the State of South Carolina, Charleston, 1873; formerly a member of the South Carolina Medical Association; a veteran of the Civil War; died, April 17.

William B. A. McNutt, Monroe City, Mo.; St. Louis Medical College, 1875; aged 67; formerly a Fellow of the American Medical Association; died at the Missouri Baptist Sanitarium, St. Louis, April 10.

Thomas P. Guilfoyle, Cherry, Ill.; Northwestern University, Medical School, Chicago, 1903; aged 40; a Fellow of the American Medical Association; died suddenly at his home, April 18, from embolism.

Clark Leon Cain, Elmwood, Wis.; University of Illinois, College of Physicians and Surgeons, 1902; aged 39; a Fellow of the American Medical Association; died suddenly, April 18, from heart disease.

William H. Woodruff, Moundsville, W. Va. (license, West Virginia, act of 1881); aged 64; a member of the West Virginia State Medical Association; died at his home, April 21, from pneumonia.

George Davis Fyfe, Jersey City, N. J.; New York University, New York, 1896; aged 47; a Fellow of the American Medical Association; died at his home, April 27, from pneumonia.

William Winfield Nelson, Richmond, Va.; University College of Medicine, Richmond, 1901; aged 38; a member of the Medical Society of Virginia; died at his home, about April 29.

Vance May, Washington, Ind.; University of Louisville, Medical Department, 1894; aged 51; a member of the Indiana State Medical Association; died at his home, January 16, from pneumonia.

Lillian Gertrude Towslee, Cleveland; Cleveland College of Physicians and Surgeons, 1888; aged 57; a Fellow of the American Medical Association; died at her home, April 22, from pneumonia.

Weems R. Winchester, Macon, Ga.; University of Maryland, Baltimore, 1874; aged 69; formerly a Fellow of the American Medical Association; died at his home, April 16, from paralysis.

John Shattuck, Irontown, Ohio; Miami Medical College, Cincinnati, 1872; aged 69; formerly a member of the Ohio State Medical Association; died at his home, April 15, from heart disease.

Robert J. Black, McKeesport, Pa.; College of Physicians and Surgeons, Baltimore, 1881; formerly mayor of McKeesport; died in the McKeesport Hospital, April 27, from heart disease.

James Lee Phillips, Providence, R. I.; Harvard University Medical School, 1892; aged 53; a Fellow of the American Medical Association; died at his home, about April 22.

Judson A. Butts, Brunswick, Ga.; Jefferson Medical College, 1860; aged 88; formerly a member of the Medical Association of Georgia; died at his home, April 18.

Henry L. Barnes, Ripon, Wis.; Western Reserve University, School of Medicine, Cleveland, 1858; aged 83; a veteran of the Civil War; died at his home, April 26.

Joseph Sherman Adsit, Hoopeston, Ill.; Chicago Homeopathic Medical College, 1891; aged 50; a member of the Illinois State Medical Society; died, April 1.

Ernest Janes McCampbell, Kansas City, Mo.; Kansas Medical College of Topeka, 1908; aged 29; a colored practitioner; died, March 28, from pneumonia.

Julius Adolar Winter, Brooklyn; Long Island College Hospital, Brooklyn, 1888; physician of the Panama Steamship Company; died at his home, April 23.

Charlotte Kent Bailey, Lyons, Ill.; Bennett Medical College, Chicago, 1910; aged 40; fell from the second story porch at her home, April 29, and was killed.

Frederick J. Weber, Highlandtown, Md.; Baltimore Medical College, 1908; Atlantic Medical College, Baltimore, 1909; aged 30; died at his home, April 16.

William Thomas Ellison, Bedford, Ind.; Bellevue Hospital Medical College, New York City, 1875; aged 68; died at his home, April 15, from heart disease.

Edwin Parsons Clark, The Plains, Va.; University of Pennsylvania, Philadelphia, 1858; aged 84; a veteran of the Civil War; died at his home, April 14.

Nicholas Dennis Richards, Belleville, Ont.; University of Toronto Faculty of Medicine, 1877; aged 65; died at his home, April 19, from heart disease.

George F. Broun, Nashville, Tenn.; University of Virginia, Medical Department, Charlottesville, 1892; aged 44; died, April 4, from tuberculosis.

Walter Scott Goodhue, Kansas City, Mo.; Hahnemann Medical College and Hospital, Philadelphia, 1872; aged 71; died at his home, April 22.

Ripley Ezra Woodard, Little Rock, Ark.; Vanderbilt University, School of Medicine, Nashville, 1890; aged 52; died at his home, April 22.

Edgar Snyder, Edgewater, Colo.; Rush Medical College, Chicago, 1876; aged 69; died at St. Anthony's Hospital, Denver, April 17.

John Williams Bosworth, Boston; Boston University, School of Medicine, 1876; died at his home, in Rosendale, about April 6.

Eli H. Thurston, Hagerstown, Ind. (license, Indiana, 1897); aged 69; died at his home, April 16, from heart disease.

Clinton O. Shrader, Bowling Green, Ohio; Eclectic Medical Institute, Cincinnati, 1902; aged 43; died at his home, April 9.

William G. Caron, Aurora, Ill.; Rush Medical College, 1897; aged 44; died at his home, April 22, from pneumonia.

Luther R. Wright, Sulphur Rock, Ark. (license, Arkansas, 1903); aged 44; died at his home, April 7.

W. H. McCall, Briggsville, Ark. (license, Arkansas, 1903); aged 74; died at his home, April 23.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SYPHILODOL

Report of the American Medical Association Chemical Laboratory

The shortage of arsphenamin (salvarsan) has made the sale of substitutes a profitable business. In many of these substitutes the earmarks of dishonesty have been obvious, so that detection of their falsity was relatively simple. In the case of "Syphilodol" marketed by the French Medicinal Company, Inc., New York, the deception has been practiced more skilfully. In the circular announcing their preparations, we read:

"It seems fitting at this time, when the American physicians are doing so much for France, that there should be a reciprocation in some way.

"Attempting to enhance somewhat this mutual interchange, we are presenting some of those scientific products, which have been so successfully used in France,——"

"The effect of SYPHILODOL is very similar to salvarsan and neosalvarsan, but it has the advantage of being more lasting in its results and more pleasing in the manner of its preparations, in that it is put up in the form of tablets, and, also, in hermetically closed glass syringes or ampules, so that it may be administered either by the mouth, intravenously or intramuscularly, at the discretion of the physician. Patients averse to the use of the hypodermic needle may be treated expeditiously by the use of the tablet form of the medicine."

In addition to Syphilodol, the French Medicinal Co. also sell "Vichy Fruti," a combination of salts, "Urodol," an "alkaline salt of the famous European Springs which is noted for breaking up and dissolving uric acid rapidly" and "Syloiodol," "French Preventive" which is described as "a solution of iodol incorporated into bougie."

"Syphilodol," we are told, is "a synthetic chemical product of *silver, arsenic* and *antimony,* scientifically prepared after the formula of the *late* Dr. Alfred Fournier of Paris." (Italics ours.—ED.). It is also claimed that "Prof. Metchnikoff and other noted French Scientists have made exhaustive tests of syphilodol and found it superior to the other products, in the treatment of syphilis." In the advertisements, Fournier and Metchnikoff are the only names given of alleged endorsers; both of these men are dead and cannot protest. True, Fournier did considerable work on a legitimate synthetic of antimony, silver and arsenic having a general chemical constitution similar to arsphenamin, but so far as we are aware, there has been no publication by these men on "Syphilodol." It would seem that the valuable work and high reputation of Fournier and Metchnikoff are being capitalized by the French Medicinal Company in their endeavor to foist a nostrum on the medical profession of this country.

"Syphilodol" comes in two forms—ampules and tablets. An order for two 0.4 ampules brought an elaborate case, much like those used to hold the popular style safety razors. The ampule itself was a "classy" affair evidently made by a glass expert; the hypodermic needle was enclosed in a novel sealed glass device. The price of each ampule is $3. No such fancy garnishments came with the tablets, although they are listed at $4.50 for twenty-five—18 cents a tablet! In the "Syphilodol" advertising it is emphasized that both the tablets and ampules are to be administered. For example:

"Syphilodol is dispensed in the form of tablets and also in hermetically closed glass syringes or ampules so that it may be used either by the mouth, intravenously or intramuscularly at the discretion of the physician. An advantage of the tablets is that they can and should be given during the interim between the injections."

LABORATORY REPORT ON SYPHILODOL

Several samples of "Syphilodol" were sent to the American Medical Association Chemical Laboratory by readers of THE JOURNAL. An original bottle of tablets was ordered direct from the French Medicinal Company. The bottle contained

25 yellow tablets, having an average weight of 0.276 gm. (4¼ grains). After being powdered, "Syphilodol" was found to be only partially soluble in water (the excipient is soluble) and to be neutral in reaction. These findings contradict the claims on the circular accompanying the bottle to the effect that "Syphilodol is a yellow powder, soluble in water, and has an acid reaction." Qualitative tests indicated the presence of mercury, sucrose (cane sugar), iodid, calcium, sulphate, fatty material, a trace of silver, a trace of arsenic and a very minute trace of antimony; a red dye was also present. Both qualitative and quantitative data showed that the mercury was present in the form of mercurous iodid (yellow iodid of mercury—hydrargyri iodidum flavum). Quantitative estimations yielded the following:

Silver (Ag^+)	0.001	per cent.
Mercury (Hg^+)	11.1	per cent.
Iodid (I^-)	7.8	per cent.
Sucrose (Cane sugar)	72.0	per cent.
Ash (Calcium Sulphate)	2.5	per cent.
Ether-soluble material (Fatty material—Petrolatum)	3.5	per cent.

Thus each tablet of "Syphilodol" contains approximately ¾ grain of mercurous iodid. An ampule of "Syphilodol," labeled 0.4 gram, contained approximately 1.5 c.c. of a liquid which after evaporation on a water-bath left a residue weighing 0.8 mg., or 1/80 grain. A second ampule held about 2 c.c. of liquid, which contained a trace of arsenic (less than 0.00001 gm., or 1/6000 grain); a very small amount of mercury was indicated but not definitely established. The liquid had the physical characteristics of water.

Accompanying "Syphilodol" advertising sent to physicians is a circular letter inviting the doctor to become a member in the "United States Bacteriological and Research Institute." The "institute" seems to be a means of suggesting that the physician have bacteriologic, pathologic and serologic examinations made on behalf of his patients. In view of the fact that it is to the commercial interest of the French Medicinal Company to have as many users of "Syphilodol" as possible, it would be interesting to know what proportion of the Wassermann tests are reported negative.

Shorn of its mystery, Syphilodol the "synthetic chemical product of silver, arsenic and antimony" is essentially mercurous iodid—yellow iodid of mercury.

PYOCYANEUS BACILLUS VACCINE OMITTED FROM N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. PUCKNER, Secretary.

Pyocyaneus bacillus vaccine, made from *Bacillus pyocyaneus*, was admitted to New and Nonofficial Remedies in 1910. At that time this vaccine was considered to give promise of having therapeutic value.

Now three of the firms whose preparations of this vaccine are described in New and Nonofficial Remedies advise the Council that they have ceased to manufacture the vaccine because of lack of demand. The fourth firm stated that in the printing of a new list of its biologic products, pyocyaneus vaccine would not be included, and that the preparation would be supplied on demand only.

The referee of the Committee on Serums and Vaccines in charge of pyocyaneus bacillus vaccine held that the discontinuance of the preparation by interested firms, for the reason that there was no demand for it, evidences that it had been proved without value. He reported that a search of recent literature failed to reveal any evidence of its usefulness.

On the recommendation of the referee, the Council directed that the several preparations of the vaccine be omitted from New and Nonofficial Remedies.

Child Hygiene.—When, in addition to our attention to the welfare of infants, we devote greater interest and more earnest efforts to the hygiene of children between the second and fifth years of life, the beneficent effect will soon be indicated in the falling death rate of the whole community.—*Public Health* (Mich.).

Correspondence

A METHOD FOR DECOLORIZING AND STAINING BLOOD FILMS

To the Editor:—Having to make and examine many blood films in the course of our routine work (1,163 in 1917) we found it somewhat of a problem to make Arneth and differential counts, study the morphology of the cells and look for malaria at the same time, with fair assurance that, if present, the malarial parasite could be found while counting and examining 100 or 200 white cells.

Mr. G. E. Burke, C.E., F.R.M.S., who was my co-worker in the blood laboratory, discovered a quick method of decolorizing the unstained films, which, combined with my staining methods, gave us a specimen, in half of which the red cells had disappeared, but the leukocytes, platelets, nuclei, etc., were brought out sharply, and apparently improved in staining qualities; and the other half of which was as of an ordinary smear, and was used for studying the red cells. Our method gives uniformity of results, freedom from precipitates and artefacts, lack of "messiness" and great time saving, and is as follows:

The blood smear is made on a slide, but, preferably, one that is drawn out to extreme thinness, and allowed to dry. It is not fixed.

The lower half of the smear is covered with the clean slide, strong pressure being employed to exclude air, and the exposed half of the blood smear is breathed on heavily. This is repeated if necessary. Where the breath comes in contact with the film, the red cells disappear.

The slide is immersed from thirty seconds to three minutes in stain, transferred to water in a Coplin jar from one minute to three minutes, washed ten seconds in the clear distilled water, and stood upright to dry, or blotted. The same water may be used repeatedly, and eight slides at a time stained.

Being a layman I cannot, of course, speak with much authority on such matters; but Mr. Burke and I would be pleased to learn if this method has been used before, and with what success. If it has not been used before, we think it is worth trying out, especially in malaria. We have had uniform success with the method in ordinary blood work so far. What happens to the erythrocytes when breathed on that they should disappear?

F. W. LACY, F.R.M.S., Fort Lyon, Colo.

"SERUM DIAGNOSIS OF SYPHILIS"

To the Editor:—Permit me to voice a protest against the adoption by Army and Navy laboratories of the method of performing the Wassermann test proposed by Dr. Hideyo Noguchi in THE JOURNAL, April 20, 1918. This method is open to a number of sources of error which would on the one hand tend to brand innocent men with the stigma of syphilis, and on the other cause cases of syphilis to escape detection which could be detected by more exact methods. I think the matter of sufficient importance to request the space necessary to point out these sources of error.

In every complement fixation test the complement acts as a unit of measurement by which the fixing power of a serum under examination is measured. It must be apparent even to the uninitiated that this measuring unit must be a known quantity in order that it may be effectively used as a standard by which to measure an unknown quantity. Wassermann, realizing this, selected guinea-pig serum as the source of complement because its complement content was more uniform than that of any other animal he had examined. In recent years careful workers (compare Ottenberg: On the Reliability of the Wassermann Reaction, *Arch. Int. Med.*, March, 1917, p. 457) have come to the conclusion that even guinea-pig serum varied so much in complement content as to introduce an inexcusable source of error. Dr. Noguchi himself (Noguchi and Bronfenbrenner: Variations in the Complement Content and Fixability of Guinea-Pig Serum,

Jour. Exper. Med., January, 1911, p. 69) showed that the variations in the complement activity of guinea-pig serum was in the ratio of 0.015 to 0.04. So that even when guinea-pig serum is employed as the source of complement, modern authors advise its careful titration before each test. The complement content of human serum is even more variable than that of guinea-pig serum. It may vary from absolutely none to more than a Wassermann unit. And yet Dr. Noguchi proposes here a test in which this wide variation of complement content is to be absolutely ignored; in which measurements are to be made with unknown quantities; in which the serum that contains a single unit of complement is to be treated exactly like a serum containing two units of complement, being tested with the same amount of antigen, the same amount of corpuscles and amboceptor, incubated for the same period of time, and finally read as though there had been no initial variation in complement content. He does not even utilize the very obvious expedient of somewhat minimizing the fatality of his error by utilizing the time factor. If he cut off his incubation on each serum at the moment his control tube shows complete hemolysis, he would compensate to some extent for the complement variation. But even then, a positive serum rich in complement may give only a very mild, doubtful or even a negative reaction, whereas a negative serum weak in complement, but strongly anticomplementary, may give a positive reaction. To explain this statement I may say that I have repeatedly made the observation, though I have never seen it recorded anywhere, that different serums either guinea-pig or human, vary in their antigen-anticomplementary titer. That is, in titrating the same antigen against different guinea-pig serums or different negative human serums of approximately the same complement strength, appreciably different anticomplementary titers may be obtained for each. One can readily see, therefore, that with a serum weak in native complement, but with strong nonspecific anticomplementary action for the antigen employed, one might easily get not only weak but very strong positive reactions on negative serums in such a method as Dr. Noguchi proposes.

In his proposed method, Dr. Noguchi entirely ignores the observation made by Sellards and Minot (Antagonistic Action of Negative Serum on Wassermann Reaction, *Jour. Med. Research*, May, 1916, p. 131) that negative serums exert an antagonistic action on the Wassermann reaction. Dr. Noguchi uses fresh negative serums as complement to activate those serums which are natively poor or deficient in complement or in which the complement has deteriorated through age. As shown by Sellards and Minot, such fresh serums will tend to inhibit or block the specific action of weakly positive serums, and these authors have even gone so far as to propose utilizing this fact to check up on weakly reacting serums to determine whether the inhibition was specific or nonspecific.

Dr. Noguchi (Noguchi and Bronfenbrenner: The Interference of Inactive Serum and Egg White in the Phenomenon of Complement Fixation, *Jour. Exper. Med.*, January, 1911, p. 92) has also shown that the relation which the total volume of serum bears to the amount of complement has an influence on the Wassermann test. If, now, he uses, as he proposes, 0.2 c.c. of inactive serum and 0.1 c.c. of an active serum as complement, he has a total volume of 0.3 c.c. of serum. If the complement content of the active serum is at the minimum level, the indifferent fixing protein substances present in the excess of serum may be sufficient to fix part or all of the complement and bring about a false positive reaction. On the other hand, as he shows in this article, a deteriorated serum which originally contained a large amount of complement, activated with a fresh serum whose complement content is at the maximum level, could easily give a false negative reaction, because of the excess of complement in the activating serum added to the interfering action of the complementoids present in the deteriorated serum.

There is no question but that syphilitic antibodies may be destroyed in the process of inactivation, and that more positive reactions can be obtained on tests made with the raw serum. It has been shown, however, that some of these may be false, proteotropic reactions, even when so refined and purified an antigen as the acetone insoluble fraction of lipoids is employed. As a consequence, most careful workers prefer working with inactivated serums, using the raw serum test only as an additional check or more adequately to control treatment. In any event, when the raw serum test is made, the serum should be titrated for its complement content and the antigen and hemolytic system be adjusted accordingly, or the complement brought up to standard by the addition of guinea-pig serum.

The plea that guinea-pigs are scarce or difficult to obtain is not valid, as it is not necessary to kill a pig to obtain serum for complement. Four or five c.c. of blood can be readily withdrawn from the heart. A dozen or two of pigs are not difficult to maintain, and will furnish all the complement needed even in large laboratories.

There is only one thing I am more certain of than this, outside of death and taxes, that if I obtained a positive reaction on my blood in a test made by the method described by Dr. Noguchi, I would not accept the verdict as final, but would proceed to make another, more accurate and reliable test. The one thing that I am more certain of is that Dr. Noguchi would do exactly the same thing. Is there a single man in our Army or Navy who is deserving less consideration than this? Better far to make no tests at all, and to rely on our clinical evidence, than to utilize, for the sake of expediency, any method that is anything less than the best.

Dr. Noguchi frequently refers to his method as new. I am at a loss to understand what there is new about it. He himself long ago originated the method of using raw serum and the human hemolytic system. The only essential difference between his present and old method is that he makes use of native complement, and where this is deficient, fortifies the serum with a suitable fresh negative serum. Native complement has long been utilized in Wassermann tests by Hecht and his large school of followers. The use of negative human serum as complement has been advocated in at least two articles of which I have knowledge, one by O. Heath, appearing in the *British Medical Journal*, June 19, 1915, and one by Butler and Landon, appearing in the *United States Naval Medical Bulletin*, January, 1916, p. 1.

J. J. SEELMAN, M.D.,
Milwaukee.

[The foregoing communication was referred to Dr. Noguchi, who replies:]

To the Editor:—In reply to the criticism of Dr. J. J. Seelman, who has expressed apprehension with regard to the reliability of the serodiagnostic procedure described by me in THE JOURNAL, I wish to make the following statement:

Dr. Seelman regards my proposed method as less accurate in its quantitative aspect than the Wassermann system because of the variation in complement in different human serums, but he apparently ignores the inherent source of error in the latter from the varying amounts of natural antisheep amboceptor present in various human serums. Now, whereas ninety out of a hundred serums contain a practically constant quantity of complement, and no hypercomplementary serum contains more than twice this average complement content, the amount of natural antisheep amboceptor varies from none to as many as twenty units or more. In the homohemolytic system only the more or less controllable factor of complement variation is present, while in the antisheep system there is the variable amboceptor when the patient's serum has been inactivated, and both amboceptor and complement when the serum is used in the fresh state, as in Hecht's method.

The variation in complement is less than one unit in either direction. In the case of an excess of complement there may be a weaker reaction than with an average serum, but this affects only those serums which are not strongly positive. The reaction cannot be rendered completely negative with a serum containing more than one unit of Wassermann antibody, and complete fixation always occurs when two or more antibody units are present. The influence of an excess of amboceptor, however, such as occurs in some specimens of

human serums tested by the Wassermann reaction, is such that a negative reaction can result when there are less than eight antibody units, so that when the native complement has been removed by inactivation and accurately titrated guinea-pig complement added, this unknown and uncontrollable factor of natural antisheep amboceptor undoes the previous adjustment. It is clear, therefore, that the degree of hemolysis is an index neither to the absolute content of complement nor of amboceptor, but only of the combined effect of both in various proportions. One hundred per cent. hemolysis may express the interaction of 0.1 c.c. of guinea-pig complement and 0.00006 c.c. of amboceptor, or of 0.01 c.c. of the former and 0.0012 c.c. of the latter, that is, one complement unit and one amboceptor unit or one tenth of a complement unit and twenty amboceptor units. There will be as many combinations as there are divisible fractions within the range of activity of the complement and the amboceptor. The hemolytic effect of complement is proportionately enhanced, as the amount of amboceptor is increased, to a point at which the former cannot be augmented. The Wassermann system (antisheep hemolytic system), then, is not a quantitatively accurate method, no matter how accurate the titration of guinea-pig complement and immune antisheep amboceptor, since the relative quantities of complement, amboceptor and corpuscles are, in the final result, unknown, being no longer adjusted to produce a uniform hemolytic system.

The effect of an excess of amboceptor in the fixation reaction is more disturbing and far reaching than that of a narrow variation in complement, when the latter is combined with a known definite quantity of amboceptor. A negative reaction, or a weak instead of a strong positive one, is more apt to result from the excess of amboceptor naturally present in the Wassermann system than from the excess of complement occurring in a few human serums, since in the former case a negative reaction may result if the serum contains less than eight antibody units, whereas in the latter a positive reaction cannot be masked even when the serum contains only two antibody units.

Let us now analyze the results obtained with a serum whose complement activity is below the average. I have recommended the additional amboceptor for those specimens in which hemolysis is incomplete within thirty minutes, because by this means the same hemolytic effect (complete hemolysis in the control) can be secured as is obtained by the combination of the average complement content and one amboceptor unit. To such a procedure I fail to see any objection. As for those serums which have no complement, or too little to produce complete hemolysis, even with additional amboceptor, it has been recommended that 0.1 c.c. (up to 0.2 c.c.) of the serum be mixed with 0.1 c.c. of fresh active nonsyphilitic human serum. Clearly, the test here corresponds with that of a specimen containing the same amount of antibody and one complement unit plus the fraction of a unit naturally present in the serum. The addition of 0.1 c.c. of a negative serum to 0.1 c.c. (up to 0.2 c.c.) of a serum deficient in complement no more affects the sensitiveness of the fixation reaction than does the addition in the Wassermann test of 0.1 c.c. of guinea-pig serum to 0.2 c.c. of inactivated serum. In fact, since the antibody content of 0.1 c.c. of an active human serum is from four to five times that of the same serum when inactivated, the source of interference from the introduction of 0.1 c.c. of active serum is more than taken care of by the intact antibody content.

By actual experiment I have found that when working with the antihuman system, whether guinea-pig or human complement is used, the addition of an inactivated negative human serum (0.1-0.4 c.c.) to any amount of syphilitic antibody representing more than one half the antibody unit has no weakening effect on the reaction. A minute amount of a positive syphilitic serum (0.006 c.c. for example), when mixed with 0.1-0.4 c.c. of inactivated negative serum and then supplemented with 0.1 c.c. of fresh negative human as complement gives just as strong reaction as when no negative serum has been added. Dr. Seelman quotes my earlier observation with Bronfenbrenner regarding a possible complementoid blocking of fixation, but he appears to overlook the fact that the phenomenon was found to apply mainly to certain animal serums (guinea-pig, chicken, etc.), human serum having shown the least interference. The interference is noticeable when a quantity of negative serum as large as 0.3-0.4 c.c. is used with a very small fraction of the antibody unit (less than one half), but there is none with 0.1-0.2 c.c. In the proposed test, therefore, this source of masking a positive reaction does not exist, as any serologist can demonstrate for himself. The observations of Sellards and Minot, it should be noted, apply only to the antisheep hemolytic system. A serum deficient in complement can be used in a dose of 0.2 c.c. and may be supplemented by a negative human serum in a dose representing one complement unit (0.1 c.c. or more) without danger of masking a positive reaction.

Dr. Seelman's reference to a possible false positive reaction from an excess of "indifferent fixing protein substances" in the mixture of inactivated patient's serum (0.2 c.c.) and negative human serum as complement (0.1 c.c.) seems to be without practical or theoretical basis. If, however, Dr. Seelman refers to the anticomplementary property of the inactivated serum, the answer is that if the added human complement is insufficient to bring about complete hemolysis in the control tube, the test is of course repeated with a sufficient amount of complement. Hemolysis must of course be completed satisfactorily in the control tube before the result is read, in this as in any other fixation method. One occasionally encounters anticomplementary serums, it is well known, and they are handled accordingly, whether one is using the Wassermann antisheep system or the antihuman system, that is, the serum is heated to 55 degrees C. for fifteen minutes to remove its anticomplementary property, or more complement is used, or the amount of the serum is reduced to a noninhibitory quantity.

Dr. Seelman's assumption that a serum containing a subnormal amount of complement should cause a false positive reaction does not apply to the proposed system, as the antigens used in the latter have no anticomplementary property. The antigens used in the Wassermann system, however, consist of either an alcoholic extract of heart, syphilitic liver, or heart extract plus cholesterin (Sachs, Fildes and McIntosh), all of which possess a pronounced anticomplementary property. It has never been defined how small a quantity of a suitable extract should be able to fix complement with a syphilitic serum, the only requirement being that the highest antigen dose should be one half the amount which completely fixes complement without the syphilitic antibody. If the amount of complement were deficient in a system in which such an antigen is used, a false positive reaction would of course result, since half of the complement is taken up by the antigen. The antigen which I recommend, both for the old antihuman hemolytic system and for the proposed system is, however, free from those constituents which impart to the alcoholic extracts their anticomplementary and hemolytic properties and their property of nonspecific reaction with active serum, and it consists of a pure acetone-insoluble fraction of tissue lipoids. The standards that I have set for a suitable antigen are as follows: The acetone-insoluble lipoids are kept in absolute methyl alcohol as a 3 per cent. solution, one part of which is mixed with nine parts of 0.9 per cent. saline solution. The opalescent fluid is then tested for its hemolytic, anticomplementary and antigenic titers. If it causes hemolysis or inhibits the action of complement in a dose of 0.4 c.c. in a total of 1 c.c., the preparation is rejected. If it is satisfactory in this respect, however, it is tested for its antigenic property with strongly positive serums, and only those preparations which produce complete fixation in a dose of 0.02 c.c. are regarded as suitable. One-tenth c.c. (at least five antigenic units) is used for the test. The antigen preparations used in our laboratories often contain as many as 200 antigenic units in 0.1 c.c. Although the antigen selected according to the standards described is highly active, no nonspecific fixation results even from the use of an excessive dose (within 0.1 c.c.) with active serums. The anticomplementary property of antigen against different guinea-pig or human serums as a source of error causing a

false positive reaction clearly, then, does not apply to the antigen defined for use in the antihuman methods.

Dr. Seelman speaks of a possible "proteotropic" complement fixation with purified acetone-insoluble lipoids. As this term was introduced by the writer (1909) to designate the fixation due to various proteins when mixed with fresh serums there is no question of a proteotropic fixation with an antigen containing no proteins.

Dr. Seelman seems to assume that the complement variation in different human serums can be compensated for by cutting short the incubation period, but how? The reaction in my system is allowed to become complete, and no such abortive procedure as Dr. Seelman seems to believe advisable is necessary. The reason for his assumption that I ignore the complement variation as of importance is not clear to me, but it is sufficient to say that a complement deficiency is adequately adjusted in necessary cases.

Dr. Seelman thinks that the complement content of the human serum should be titrated before the test and the antigen and hemolytic system adjusted accordingly, or the complement brought up to the standard by the addition of guinea-pig serum. Such a process may be, in my opinion, indicated for those methods in which fresh human serum is used in combination with foreign corpuscles (for example, Hecht's or Heath's method), but is quite unnecessary for a system in which human corpuscles are used, the former having the two variable factors, complement and amboceptor, and the latter only the controllable variation in complement. As already pointed out, the complement contents of human serums do not vary to any considerable extent, and in only a few specimens is there some excess (usually less than double the average) or some deficiency (a fraction of one unit). Either abnormality is readily detected in the control tubes and subsequently adequately adjusted, and the insignificant academic variations cannot lead to any serious error, certainly not as much as is inherent in the Wassermann system, the quantitative errors of which are more subject to criticism.

I regret that the reference to the work of Emery, Butler and Landon, Myer and Thompson was inadvertently omitted from my paper as it appeared in THE JOURNAL. The accidental omission was mine. The fault will be corrected in the detailed description of the test which will appear in the next issue of the *Journal of Experimental Medicine*. The methods of Heath and Hecht, however, are not concerned in the discussion of the present method.

It is my belief that, once taken up without prejudice, the present method will prove just as reliable as, and perhaps even more reliable than, the Wasesrmann system, because of fewer reagents and less manipulation, as well as the stability of the two most important reagents, the antigen and the antihuman amboceptor.

HIDEYO NOGUCHI, M.D., New York.

EXAMINATION OF REGISTRANTS: SUGGESTIONS FOR DETECTING HEART LESIONS

To the Editor:—It has long been evident to me, from contact with medical students, that aortic regurgitation is the most commonly missed of valvular lesions. This belief has been forcibly confirmed and emphasized in recent months in the examination of registrants for military duty. On one of the medical advisory boards of Columbia University I have had referred to me from three local boards a considerable number of registrants with heart murmurs. The number of aortic regurgitant murmurs recognized and recorded is surprisingly small, when it is considered that the examiners on the local boards are no longer students, but practitioners of medicine. These registrants are in over 90 per cent. of instances recorded as having "systolic murmur." Furthermore, the internists examining for other medical advisory boards are having similar experiences. May I therefore be permitted space for a few remarks that may possibly help to a commoner recognition of aortic regurgitation? I shall not speak of the classical physical signs of this lesion, but wish to mention a few practical points.

The aortic regurgitant murmur (diastolic) is usually soft and low pitched. Soft, low pitched murmurs are often very hard to hear with the ordinary bell stethoscope. They can more readily be heard with the naked ear, or still more clearly with a flat Bowles stethoscope. A prolongation of the second heart sound is often the earliest evidence of aortic regurgitation. On detecting such a prolongation, one should suspect this lesion, and then, substituting the naked ear or the Bowles stethoscope for the common bell stethoscope, one will often clearly detect the soft, low pitched, blowing diastolic murmur. I cannot too strongly urge the adoption of these suggestions. Other adjuvants, such as exercise, and change of posture, are too obvious to require emphasizing.

I fear that in the rush of examinations at the local boards, some of the examiners fail to palpate the pulse, for I have seen aortic regurgitation presenting typical Corrigan pulse, and even clearly demonstrable capillary pulsation, overlooked. It might be permissible here to remind examiners that the pulse pressure in aortic regurgitation is characteristically large. Such a finding may aid in the differentiation of a doubtful case. This evidence is particularly valuable in ruling out a so-called "mitral diastolic" murmur. When, in mitral stenosis, a blowing diastolic murmur produced at the mitral ring, and due to the passive progression of blood from auricle to ventricle through a much narrowed auriculo-ventricular ring, appears, we have evidence of an advanced mitral stenosis. In these cases, the blowing murmur is audible over a narrowly limited area about and within the apex, and the pulse pressure is small.

I hope the foregoing remarks may be of some aid.

MAXIMILIAN SCHULMAN, M.D., New York.

THE USE OF IODIN IN THE PREPARATION OF THE PATIENT FOR DELIVERY

To the Editor:—In connection with the communication by Dr. Thoms (THE JOURNAL, April 13, 1918, p. 1115), I wish to say that while I agree that his technic is effective, it is possible to obtain equally good results with weaker solutions than he uses. Lambert of New York has shown us that an aqueous solution of iodin (1:2,000) will prove effective against the *Staphylococcus pyogenes*, and that it will not prevent cell growth. Alcohol alone is an irritant, and any diluted tincture of iodin may cause pain and irritation when used on delicate or sensitive surfaces. After anesthesia has been induced, we use the diluted tincture, U. S. P., 1 part to 3, of 95 per cent. alcohol. This is perfectly satisfactory in skin sterilization of any part of the body or any mucous surface. After an experience of many years I have had no reason to return to the use of stronger dilutions; in no instance has irritation of the skin occurred, nor am I aware of any wound infection wherein a stronger application would have served a better purpose. I would urge against the use of the mercuric chlorid solution as suggested just before applying iodin, as severe dermatitis may result, owing to the formation of red mercuric iodid. A case of this kind was reported in the local medical society a few years ago.

I. S. STONE, M.D., Washington, D. C.

TIN SPRAYER FOR MELTED PARAFFIN IN TREATMENT OF BURNS

To the Editor:—A simple, efficient and inexpensive apparatus for spraying melted paraffin or other paraffin products in the treatment of burns is the ordinary tin sprayer, such as is used in the garden for spraying liquid insecticides on plants. It is first necessary to melt the paraffin before placing it in the tank. Before the spray is used, the tank may be immersed in boiling water or heated over a flame until the paraffin is melted. When once heated, the paraffin remains liquid sufficiently long for all purposes.

L. L. STANLEY, M.D., San Quentin, Calif.
Resident Physician, California State Prison.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

COMMUTATION, INCOME, INSURANCE AND EXPENSES OF MEDICAL RESERVE CORPS OFFICERS

To the Editor:—1. What allowance is made by the government for a first lieutenant's wife, there being no children? 2. What would be the gross income for such an officer having a wife and no children? 3. What is the increase in salary for foreign service? Would the allowance for the wife be granted when the officer is on foreign soil, or when he is so located that his wife cannot spend her time with him? 4. What provision is made for insurance? 5. Can you give the approximate cost of a first lieutenant's living expenses while on active duty?

W. D. Gilmore, M.D., Mooresville, N. C.

Answer.—1. Commutation for a first lieutenant who maintains a residence for a dependent would approximate from $40 to $50 per month.

2. From $2,400 to $2,500.

3. Ten per cent. The question of commutation for officers on foreign service—that is, whether they receive single or double commutation—has not yet been determined by the comptroller.

4. Officers are covered by the Federal War Risk Insurance, the cost varying according to the age of the officer and the amount of insurance taken; $10,000 worth of insurance may be carried for from $6.50 to $8.10 per month for the ages between 20 and 40.

5. The living expenses vary from $40 up.

ELIGIBILITY FOR ADMISSION TO THE MEDICAL RESERVE CORPS—COMMISSIONS IN THE ALLIED ARMIES

To the Editor:—1. Please advise me whether I am eligible for a commission in the United States Army (Medical Reserve Corps)? I was born in England, but have been in this country since I was 3 years of age. Through mistake I have never taken out naturalization papers. 2. What steps would it be necessary to take in order to get an appointment or commission in the Canadian or British army as a physician? Any information you may be able to give as to rank, pay, etc., in the latter armies will be appreciated. H. R. B.

Answer.—1. Since you are not a naturalized citizen, you are not eligible for a commission in the Medical Reserve Corps of the United States Army.

2. Both the British and Canadian armies have representatives in all the large cities of this country. Information may also be obtained by addressing the Surgeon-General, Department of Militia, Ottawa, Canada.

COMMISSIONS IN THE MEDICAL RESERVE CORPS AND IN THE MEDICAL CORPS, NATIONAL ARMY

To the Editor:—1. How can a commissioned officer in the Medical Reserve Corps transfer or get a commission in the Medical Corps, National Army? 2. What advantages or privileges does a commission in the Medical Corps, National Army, give the holder over a commission in the Medical Reserve Corps?

Henry C. Woltman, Major, Camp Pike, Ark.

Answer.—1. By appointment by the President on recommendation of the Surgeon-General.

2. None except such as go with higher rank if appointed to such rank.

PAY OF OFFICERS OF THE MEDICAL RESERVE CORPS

To the Editor:—What pay do medical reserve officers receive?

A. R. Remley, M.D., Lawson, Mo.

Answer.—Annually: First lieutenant, $2,000; captain, $2,400; major, $3,000; commutation for quarters: lieutenant, $432; captain, $576; major, $720; heat and light: approximately $80, $120 and $160, respectively. The increase in pay for foreign service is 10 per cent.

STATE LICENSING BOARDS AND MEDICAL RESERVE CORPS OFFICERS

To the Editor:—What states will grant license without further examination to officers in the Medical Reserve Corps? Will this continue after the war is over? W. Y., M.D., Linden, Tenn.

Answer.—None.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

California: San Francisco, June 25. Sec., Dr. C. B. Pinkham, State Capitol, Sacramento.

Colorado: Denver, July 2. Sec., Dr. D. A. Strickler, 612 Empire Bldg., Denver.

Delaware: Wilmington, June 18-20. Sec., Dr. H. W. Briggs, Wilmington, Del.

Florida: (E): Jacksonville, June 10-11. Sec., Dr. G. A. Munch, Tampa.

Florida (H): Jacksonville, May 22. Sec., Dr. Geo. A. Davies, East Port.

Georgia: Atlanta and Augusta, May 30-June 1. Sec., Dr. C. T. Nolan, Marietta.

Illinois: Chicago, June 3-7. Mr. F. C. Dodds, Supt. of Registration, Capitol Bldg., Springfield.

Iowa: Iowa City, June 6-8. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.

Kansas: Topeka, June 18-19. Sec., Dr. H. A. Dykes, Lebanon.

Kentucky: Louisville, May 28-30. Sec., Dr. J. N. McCormack, Bowling Green.

Louisiana: New Orleans, June 6-8. Sec., Dr. E. W. Mahler, 730 Audubon Bldg., New Orleans.

Maine: Augusta, July 2-3. Sec., Dr. Frank N. Searle, 776 Congress St., Portland.

Maryland: Baltimore, June 18-22. Sec., Dr. J. McP. Scott, Hagerstown.

Michigan: Ann Arbor, June 11-13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Minnesota: Minneapolis, June 4-6. Sec., Dr. T. S. McDavitt, 741 Lowry Bldg., St. Paul.

Nebraska: Lincoln, June 3-5. Sec., Dr. J. J. Hompes, 612 Sec. Mut. Bldg., Lincoln.

New Jersey: Trenton, June 18-19. Sec., Dr. Alex. MacAlister, Trenton.

New York: Albany, Buffalo and Syracuse. May 21-24. Sec., Dr. W. J. Denno, Education Bldg., Albany.

North Carolina: Raleigh, June 24-28. Sec., Dr. H. A. Royster, 423 Fayetteville St., Raleigh.

North Dakota: Grand Forks, July 2. Sec., Dr. G. M. Williamson, Grand Forks.

Ohio: Columbus, June 4-7. Sec., Dr. H. M. Platter, State House, Columbus.

Oregon: Portland, July 2. Sec., Dr. Herbert S. Nichols, 802 Corbett Bldg., Portland.

South Carolina: Columbia, June 11. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

Tennessee: Knoxville, Memphis and Nashville, June 14-15. Sec., Dr. A. B. DeLoach, Exchange Bldg., Memphis.

Texas: Austin, June 18-20. Sec., Dr. M. F. Bettencourt, Mart.

Utah: Salt Lake City, July 1-2. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

Vermont: Burlington, June 10-12. Sec., Dr. W. Scott Nay, Underhill.

Virginia: Richmond, June 18-21. Sec., Dr. J. W. Preston, Roanoke.

Washington: Tacoma, July 2. Sec., Dr. C. N. Suttner, 415 Old Nat'l Bldg., Spokane.

Wisconsin: Milwaukee, June 25. Sec., Dr. J. M. Dodd, Ashland.

British Medical Students and the Army

The *Medical Press*, London, states that a national service instruction has just been issued under which it is provided:

1. That a medical student who is a full-time student at a recognized medical school, who has passed his first professional examination in chemistry, botany and zoology, is not to be called up, whatever his medical category or trade, so long as he remains a full-time medical student.

2. A full-time medical student at a recognized medical school, who produces a certificate from the dean of the faculty that he should be able to pass his first professional examination on or before July 31, is not to be called to the colors before July 31.

3. A medical student protected under this instruction, who does not, within thirty-six months of the date of commencing his professional studies, pass his professional examinations in anatomy and physiology, will forthwith be called to the colors if otherwise available, and required for service.

4. In order to be entitled to the protection under the instruction, a medical student must enrol in an officers' training corps for medical cadets.

5. Protection under the instruction will be withdrawn from any medical student who has been requested, in writing, by the ministry of national service, to offer his services as a surgeon probationer in the navy, and who has not within twenty-one days thereafter sent an application for enrolment as a surgeon probationer.

Other provisions apply to medical students in categories B and C, and for the review of all cases where students are protected from military service.

Oregon January Examination

Dr. Herbert Nichols, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, Jan. 2-4, 1918. The examination covered 10 subjects. An average of 75 per cent. was required to pass. Of the 24 candidates examined, 15, including 1 osteopath, passed, and 9, including 3 osteopaths, failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Georgetown University	(1915)	84
College of Physicians and Surgeons, Chicago	(1906)	75
Kentucky School of Medicine of Louisville	(1892)	81
College of Physicians and Surgeons, Baltimore	(1906)	79
Johns Hopkins University	(1914)	82
Maryland Medical College	(1902)	75
Marion-Sims-Beaumont Medical College	(1902)	76
John A. Creighton Medical College	(1917)	80, 86
Starling Medical College	(1892)	75
University of Oregon	(1917)	79, 85, 86, 89
FAILED		
California Eclectic Medical College	(1914)	75 *
University of Louisville	(1907)	68
Eclectic Medical University	(1917)	67
Missouri Medical College	(1895)	65
University Medical College of Kansas City	(1897)	73
Willamette University	(1913)	80 *

* Fell below 75 per cent. in one or more subjects.

Book Notices

THE FUTURE OF THE DISABLED SOLDIER. By C. W. Hutt, M.A., M.D., D.P.H., Oxford, Deputy Medical Officer of Health County Borough of Brighton. Cloth. Price, $2. Pp. 199, with 14 illustrations. New York: William Wood & Co., 1917.

Many physicians and laymen in this country are keenly alive to the problem that will soon be confronting us as to how best to fit the disabled soldier to do what work he can. The government, as is known, is making preparations to care for and train these unfortunates. To all those interested in this question Hutt's book can be recommended as containing in small compass a dependable statement of the aims and requirements of such work, and what has already been done in other countries than ours. The book is authoritative, scientific and not sentimental; it is inspiring. One rises from reading it, determined not only to do what one can in helping the disabled soldier but also to try to assist all those physically unfit either by youth, old age, disease or accident to find occupation suited to their capacity.

ELECTRO-THERAPY IN GYNAECOLOGY. By Samuel Sloan, M.D., F.R.F.P.S.G., Consulting Physician to the Glasgow Royal Maternity and Women's Hospital. Cloth. Price, $4. Pp. 298, with 39 illustrations. New York: Paul. B. Hoeber, 1918.

The venerable author presents this book not as a textbook in electrotherapeutics or in gynecology, but as a record of his own work during the last twenty years in electrotherapy as applied to gynecology. He believes that electrotherapy is of value in medical or nonoperative pelvic affections. Formerly it was almost entirely empiric and somewhat unsatisfactory, so that it came to be neglected. The author considers that it has now been established on a scientific basis. The first part is devoted to an elementary presentation of electrophysics. In the second part, the electromedical apparatus is described. In the third part, the principles of electrotherapy, and the action of static, galvanic, alternating and high frequency currents are discussed. Constitutional diseases, mostly functional, to which women especially are liable, are then considered, and the great value of electrotherapy is shown. In the fifth part, devoted to pelvic affections, neuroses of the pelvic structure are found to be especially benefited by electrotherapy. Here the author is in agreement with those gynecologists who have not entirely neglected all kinds of therapy except the operative. In the chapter on sepsis and pelvic inflammation, he comes more in conflict with the usual professional opinion, for he finds that here there is absolute assurance of success. Numerous illustrations give a good idea of the apparatus and technic of his method of ionization for septic disease. Not so much weight is laid on the electric treatment of fibroids, the proper field for which is the accompanying pain and hemorrhage. He does not discuss roentgen therapy. In the appendix are given in tabular form brief abstracts of the histories of 212 cases on which the work is based. Electrotherapy in gynecologic practice has become nearly obsolete in this country. The high reputation of the author and his conservative, modest presentation of the subject may well lead the profession to study anew the possibilities of a nonmutilating therapeutic agent.

MANUAL OF SPLINTS AND APPLIANCES FOR THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY. Report of a Board Convened for the Purpose of Standardizing Certain Medical Department Supplies: Lieut.-Col. William L. Keller, M. C.; Major Robert B. Osgood, M. R. C.; Major Alexander Lambert, M. R. C.; Major Joseph A. Blake, M. R. C.; Capt. W. S. Baer, M. R. C., and Capt. Nathaniel Allison, M. R. C. Cloth. Price, 75 cents net. Pp. 208, with 173 illustrations. New York: Oxford University Press, 1917.

This manual is the outcome of the report of a board convened for the purpose of standardizing certain medical department supplies under Special Order 73, A. E. F., Aug. 20, 1917. As it is of notebook size (about 4 by 6 inches), it may be slipped into the pocket, ready for instant reference at all times, by the Army surgeon. It epitomizes the subject of splints, appliances and dressings. In determining the character of the standard appliances to be employed, efficiency, correct mechanical principles, simplicity of design, low cost of construction, and transportability were the chief considerations. The manual is in four parts. Part 1 covers general considerations and detailed descriptions of splints and appliances recommended for use at field and evacuation hospitals. Part 2 relates to their use at base hospitals, where the practice is somewhat different. Part 3 covers surgical dressings and accessory supplies. Part 4 contains illustrations showing the exact application of the various splints, appliances and dressings in the multifarious injuries to bones and joints, as well as the accompanying lesions of the soft parts, which may occur in modern war. In leg and arm splints the Thomas wire traction splint with hinged and other modifications, the long interrupted Liston splint, thigh splints of the Hodgen and Cabot types, of the simplest construction, usually of wire, have been adopted. Simplicity in apparatus and brevity in the description of their uses and indications, with excellent illustrations of their practical application, making everything clearly understood, are the result of the deliberations of the board as shown in this well printed manual.

THE THIRD AND FOURTH GENERATION. An Introduction to Heredity. By Elliot Rowland Downing, the School of Education, University of Chicago. Cloth. Price, $1 net. Pp. 164, with 13 illustrations. Chicago: University of Chicago Press, 1918.

This book is a plea for the application of a sane and practical eugenics, presented in simple, nontechnical language. It is addressed particularly to young people as students, because of their ready adaptibility to new facts and their freedom from the traditions and prejudices that hamper the older generation. To emphasize the important part the laws of heredity play in the development of the human race, the author draws an interesting parallel between certain highly pedigreed American race horses and superior families of gifted men like Johann Sebastian Bach and Charles Darwin, contrasting them with the evil strain of the famous, or infamous, Max-Jukes. The problems presented by the contrast, especially the problem of Nature's tendency to perpetuate undesirable as well as desirable traits, he then considers in the light of their relation to sexual reproduction. Mendel's law of the recurrence of dominant and of recessive traits in alternate generations is carefully explained in connection with the latter's famous experiments in plant breeding. Biologic evidence is brought to bear on the theory of the transmission of hereditary traits by means of the chromosomes in the living cells. The student learns that the much emphasized prenatal influence has little to do with the

hereditary characters of a plant or an animal, which are determined at the time of the fertilization of the egg. In applying these laws to the improvement of human stock, the author calls attention to the appallingly rapid growth of the feebleminded population in the United States, reviews the records of families tainted with insanity in every generation, and makes an appeal for the segregation of the feebleminded, in order to eliminate the mentally defective, criminal and degenerate stocks.

Medicolegal

Liability of Employer for Physician not Answering Call

(Owens v. Atlantic Coast Lumber Corporation (S. C.), 94 S. E. R. 15)

The Supreme Court of South Carolina reverses an order that sustained a demurrer to the plaintiff's complaint for damages for a breach of the defendant's contract to provide medical attention to his sick wife, for the lack of which she died. The court says that the complaint alleged that the plaintiff was an employee of the defendant; that the defendant deducted $1 from the monthly wages of each of its employees to maintain a staff of two physicians to render medical attention to them and their families when needed and requested; that the plaintiff called twice on one of the physicians, a Dr. Brown, who refused to give medical attention to the plaintiff's wife, on the pretext of being too busy and because he could not risk his automobile on a certain ferry; that the plaintiff could not find the other physician, and was without means to employ any one else, etc. The trial court took the view that the complaint showed affirmatively that the plaintiff had no cause of action, probably on the ground that the defendant was not liable for the action of the physician, in the absence of an allegation of its negligence in his selection. That was a misconception of the plaintiff's case. He did not seek to recover damages for the malpractice, negligence or unskilfulness of the physician in the management of the case after he took charge of it, but for the breach of the defendant's contractual duty, in his refusal to render any service at all.

It was too plain for argument that, under the facts alleged, there was a contract, and that it was based on a valuable consideration. The only real question was, Did the plaintiff allege enough to show a breach of that contract by the defendant? From the nature of the case, the plaintiff was bound to notify one of the physicians of his wife's need of attention, and, also, of her right to it, by reason of his being an employee, if that fact was unknown to the physician. While there was no direct allegation that Dr. Brown knew that the plaintiff was an employee, it was fairly inferable from all the facts alleged that he did, for he did not refuse the plaintiff's request on that ground, as he probably would have done, if he had conceived that the plaintiff's wife was not entitled to his services for that reason. The giving of other excuses impliedly excluded that one. At any rate, he should not have based his refusal on that ground, keeping it concealed, without inquiring of the plaintiff as to the truth of the matter. Besides, it was inferable from all the circumstances that these physicians were engaged chiefly, if not exclusively, to attend to the defendant's employees, which was enough to put the physician on inquiry which would have disclosed the fact.

The general rule is that notice to one who has been appointed by the master to perform his duty is notice to the master. So, too, as a general rule, a breach of contract that is due to the failure or inability of a third person with whom the party in default has made contracts to enable him to perform his contract does not excuse such breach. In this case the physician was the third person contracted with by the defendant to perform its part of the contract to provide medical attention to the plaintiff's wife. He was the defendant's agent for the performance of its contractual obligation to the plaintiff, and notice to him was notice to the defendant, and his failure to render any service at all was the defendant's failure to perform its contract.

While, in the view taken, the question of whether the defendant would be liable for the malpractice of physicians carefully chosen was not strictly within the issues tendered by the complaint, there is one view of the case in which that question might become important. If the deductions made resulted in direct pecuniary profit to the defendant, then, clearly, it would be responsible for the negligence or malpractice of the physicians employed even with due care, on the same principle that a private hospital conducted for gain, or the physician himself, is made liable.

Use of Liston Splint—Admissible Evidence

(Baldwin v. Baines (Vt.), 102 Atl. R. 338)

The Supreme Court of Vermont reverses, for retrial on the question of damages only, a judgment recovered by the plaintiff for malpractice in the treatment of a simple oblique fracture of the middle third of the right femur, because he was not only allowed, without sufficient evidence, to recover for what he had already lost in earning capacity, but the jury was permitted to speculate as to how his capacity to earn money would be affected in the future. The court says that a long splint, called a Liston splint, was used, and that when it was removed the leg was found to be 2¼ inches shorter than the other one, and the ends of the broken bone overlapped so that there was an angular deformity at the point of fracture.

The defendant excepted to the charge of the trial court wherein it allowed the jury to find the defendant negligent for using the Liston method rather than some other, insisting that on the evidence it was not permissible to find that this method did not accord with the degree of knowledge, care and skill that was exercised by physicians engaged in the same general line of practice in that neighborhood. But this exception could not be sustained. It assumed that the evidence was all one way on that phase of the case. It ignored the medical testimony tending to show that this method was obsolete; that it was not used by certain other physicians in that locality; that it would not insure complete fixation, and that it was inefficient in the matter of extension, unless the perineal band connected with it was constantly watched.

The defendant also excepted to the charge because it did not make clear to the jury that the defendant would not be liable if, in selecting a method of treatment, he chose one just as good as those generally recognized by the profession in that locality, even if it was not in general use there. What the court charged was that the defendant could not be held liable for a mere error of judgment in choosing from several well-recognized and authoritative methods of treatment the one he in fact used, and that he could not be held liable if the method chosen was a proper method and one well recognized in the same general neighborhood by those in the same general line of practice. So far as the criticism here made was concerned, the charge was all that the defendant was entitled to.

Another exception to the charge was predicated on the assumption that the court asked the jury to consider the question whether this leg was so put up that there could be no movement of the bones and no shortening of the leg. The language of the court was: "Was it in such a shape that it would hold those bones in apposition? Was it in such a condition that there would be no unnecessary shortening of the limb? Was the leg treated by the method with which it was treated in such a way that there could be no movement to the side?" This language did not make the defendant an insurer of a perfect result. It recognized that there might be some shortening of the limb without liability of the physician. It required a physician to set the leg and hold the bones in apposition, and to guard against crowding the bones sideways. The exception could not be sustained.

A physician, who testified that he had never used or seen a Liston splint, and knew nothing regarding the results of that method of treatment, was shown two roentgenographic plates, which were exhibits in the case, and was asked whether, assuming the plates were taken of the plaintiff's

injured leg, the angular deformity shown was such as would be produced by bandaging the leg to this side splint as done by the defendant, and was allowed to answer that it was. This was not error, either as violating the rule forbidding the expression of an opinion on the question the jury was to decide or because the witness had never had experience with this method of treatment. It is not at all unusual to allow an expert witness to give an opinion that a particular condition is due to a specified cause. Certainly the rule is liberal enough to allow him to say that it might be. The fact that the witness had never had experience with this method of treatment did not disqualify him.

Medical Officer Wrongfully Passing Applicant for Enlistment

(Ex parte Blackington (U. S.), 245 Fed. R. 801)

The United States District Court in Massachusetts holds that the fact that a medical examiner may have wrongfully passed an applicant for enlistment does not give the latter any legal right to be discharged from the Army on a writ of habeas corpus. The court says that the petitioner in this case, a member of the bar, claimed that when he was about 3 years old his head was kicked or stepped on by a horse, the calk in the shoe puncturing both the outer and the inner plates of the skull. Trephining was done, and a piece of the skull about half an inch in diameter was removed, but no plate was inserted. The wound was in the front part of the left temple, near the outer corner of the eye, and is now indicated by an obvious indentation. The petitioner's height is 5 feet 3 inches. In June, 1917, he enlisted as a private in a battery of heavy field artillery that was a part of the Maine National Guard, which he expected would shortly be called into the federal service. The medical officer who examined and accepted him for service had conceived a violent animosity toward him because about a year previously he had had occasion in the course of his business to collect a debt from the officer's sister, and the officer said he would get even with him for annoying his sister; that he understood that Blackington was going to enlist in the heavy artillery, and, if he did, he would pass him if he could not see beyond the end of his nose, and would see to it that he was passed by the federal medical examiner, etc. Within a day or two after the enlistment became complete, the petitioner consulted two other physicians on the question of whether he could safely perform military duty, especially near cannon in action, and was informed that he could not, and from that time he consistently endeavored to obtain his discharge from the service. After the regiment in which he enlisted was drafted into the United States Army he was examined by the federal medical officers, and was accepted by them. Nothing whatever appeared which cast any suspicion on the fairness of their examination, unless the remark above quoted be so regarded. No direct evidence was offered by the petitioner that his physical condition was such that military service would cause more injury or hardship to him than to the average man. The court is of the opinion that, on his own evidence, the petitioner was not entitled to be discharged; and dismisses his petition.

The recruiting officer, or the medical examiner, acts solely for the state or for the United States. The purpose of the examination is not to give to the applicant assurance that he is physically fit for military service, but only to prevent undesirable men from getting into the Army, where their presence would cause difficulty and expense. So, too, the Army regulations governing recruiting are established for the good of the service, and may be waived by the applicant, not of the prescribed height, whose offer of service was nevertheless accepted. As to the effectiveness and bodily soundness, the Army has the right to fix its own standards—if not absolutely, at least within much wider limits than were approached in this case. If the medical examiner, in violation of his duty as an officer, accepted an unfit man, that was a matter for which he might be called to account by his military superiors; but it was nothing that a recruit passed by him could take advantage of, whether such action was inspired by personal hostility, or was the result of mere negligence.

Social Medicine, Medical Economics and Miscellany

OBSTETRIC SUPERSTITIONS*

PAUL TITUS, M.D.
Obstetrician, Western Pennsylvania Hospital
PITTSBURGH

Every once in so often, one can take up a medical journal and find an article with a heading something like this: "Obstetric Superstitions Prevailing among the Borneo Head-Hunters" by Dr. So-and-so, who has just returned from being a medical missionary in the Malay Archipelago. Or it may be that Dr. Somebody-else who has been doing Army work in our insular possessions has written very cleverly on "The Childlike Beliefs of the Filipino Regarding Obstetrics, and Some Curious Ideas of the Native Midwives." We read these interesting little monographs in a superior sort of way, smile with a sort of "holier than thou" smile, and patronizingly remark, "Now, isn't it quaint that these poor benighted heathen should believe such ridiculous things!"

It has occurred to me, however, that perhaps we do not have so much right after all to smile at these unenlightened savages, for I have been obliged to assert repeatedly to pregnant patients that raising the arms above the head will not twist the cord around the baby's neck. I have had to tell others that decayed teeth should be taken care of during pregnancy, in spite of the fact that they had been earnestly assured by any number of their friends that they must not have any dental work done while in the family way. And an irate newly made grandmother nearly discharged me on one occasion, when I insisted that she stop picking up the new baby whenever it cried, because she had known for a very long time that "a boy baby must never be allowed to cry for fear of rupture."

There are so many obstetric superstitions and ideas extant, and belief in them is so widespread and common, that I have endeavored to collect them as I have heard them, and to group them according to a similarity of belief or origin. It was not difficult to compile a list of ninety-eight superstitious ideas, and there are, without doubt, many more which have been completely missed. It is interesting to note how well founded on facts a few of them are, while others are a combination of medicine and folk-lore as taught by the ancients, and both the good and the foolish ones are amusing.

If a consideration of the subject of menstruation is permissible under the heading of obstetrics, the first superstition to present is: "A menstruating woman is unclean; if she touches a mare which is with foal, the mare will miscarry; she must not handle milk or it will turn sour; she will be unsuccessful in making jelly, for if she attempts it, the syrup will not solidify." To this superstition may be added the beliefs that if a woman has no children she is likely to have an early menopause, and if a young woman misses a period she will develop consumption; also, if a woman becomes pregnant again after having had a child and no periods have occurred between the two pregnancies, the second child will be sterile.

Coming to the subject of pregnancy itself, we find a multitude of ideas relating to the various ailments of pregnancy: "After the skin grows on the baby, the nausea will stop." "Popcorn is good for nausea of pregnancy." "The husband sometimes has the nausea of pregnancy for the mother." As an additional bit of evidence that the husband counts for something in obstetrics, I would cite the fact that the husband's getting toothache is considered a sign of pregnancy, and one may count from the date of the toothache in estimating the expected time of confinement. "Heartburn makes hair on the baby," or, to express it a little more clearly, "heartburn means that the baby is going to have a great deal of hair," and to cure it, it is recommended that for heartburn one must eat raw potatoes. "Getting the feet wet will cause polyhydramnios," the relation here being quite obvious. "The head of

* Read before the Pittsburgh Academy of Medicine, Feb. 5, 1918.

the baby sinks into the pelvis in the dark of the moon," but "if the patient has gone overtime this can be remedied by dropping new pennies on the floor." As a means of determining about when to call the doctor, you may have your choice between "the occurrence of wild pains indicates that the baby will be born two weeks later to the day," and "if the baby does not come on the exact date calculating from the last period, it will be precisely two weeks late." A pseudocyesis is called a "wind-baby," usually with good reason.

If a young couple desire to arrange beforehand to have either a boy or a girl, as their fancy dictates, they have only to follow these directions: "In order to beget a boy, the father must go to bed with his boots on;" or, "if a boy is desired, coitus should take place before the period, but if a girl is wanted it should occur after the period;" or, "have coitus on the left side to beget a girl, on the right side to beget a boy;" or, "the mother should eat freely of peanuts during her pregnancy in order to have a boy, whereas if she wishes a girl she should eat a great deal of sweet stuffs of all kinds." It is said that "the right ovary produces a boy, the left a girl." But should the prospective parents have any doubt, they will be able to tell absolutely which to expect by the fact that "if a patient has a high color, she may expect a girl," whereas "if the unborn baby is a girl, the patient will be more nauseated than if it is a boy." "If the fetal heart sounds are above 140, one may expect a girl, if below, a boy," because of the fact that a woman's pulse is faster than a man's, this having been applied to male and female fetuses. "If the baby is carried high in front it is a boy, but it is a girl if carried low and the patient is broad in the back"; and anyway, "more boys than girls are born in war times."

The question of maternal impressions and markings of the unborn baby is hopeless. The farther one goes, the deeper into the subject one gets. Suffice it to say that all sorts of things, from black cats crossing one's path to eating strawberries and watching workmen either fall from scaffoldings or stagger home drunk, will mark the baby in various ways. This is all so definite, in fact, that one never need be at a loss to account for any peculiar markings or malformation the newly born baby may show. If the mother, preferably with the help of one or both grandmothers, will merely think back over the nine months of pregnancy, the explanation is sure to be found. There are one or two very important things in the way of maternal impressions that should be avoided during pregnancy. "If the patient raises her arms above her head for any reason, the cord will be twisted around the baby's neck." "The mother must not touch her face, as a habit, or the baby will be marked on the face." "If the baby sticks out its tongue after its birth it means that the mother intensely desired some article of food during pregnancy. If some of this is put on the baby's tongue, this habit will cease."

It is very nice to be able to give one's patients a favorable prognosis as to the character of their labor, and this may be done if one will remember that "if a woman has a large mouth she will have an easy labor, but if the mouth is small, a difficult labor." "More babies are born at night than in the day time," a circumstance probably due to the fact that the moon, which ordinarily shines at night, is responsible in some mysterious way, for it is well known that "the change of the moon starts pregnant women into labor."

The old superstition that the first baby often comes early has more than once proved a good alibi. In connection with this, the fact that "a seven months' baby has a better chance of surviving than an eight months' premature infant" is true, either because it sometimes takes a couple of months to find out that one is pregnant, with a subsequent rush to the marriage license bureau, or else this idea is a survival of the time when seven and multiples thereof were considered lucky numbers.

It is said that oil rubbed on the abdomen makes labor easier, and a superstition extant among the negroes to the effect that "intercourse at the beginning of labor will make a light labor" has caused at least one fatal infection that I know of. "Girls make more trouble during labor than boys," and "the breath must not be drawn in during labor, as that draws the baby back," and "one should blow into a bottle to expel the afterbirth if retained," are superstitions that speak for themselves. "The patient must keep her mouth shut after delivery to prevent the womb from dilating," but if it does dilate and hemorrhage results, "one should put an ax under the bed, edge up, in order to cut the hemorrhage," or "give the patient a piece of the afterbirth to eat, in order to stop bleeding." "For convulsions, tie pieces of fresh onion over the radial artery." So far as twins are concerned, "it is bad luck for a mother to have boy and girl twins because the mother in all likelihood will not survive."

After the patient has had her baby, it must be remembered that "sheets must have been slept in, in order to take off the chill before the bed is occupied by a puerperal woman," and "an abdominal binder preserves the figure after delivery." It is better to acquiesce in the latter idea, else some woman who has grown stout after the arrival of her offspring may blame her physician for the loss of her figure. "If the mother does not sleep after delivery, put her shoes under the bed with the toes out." If the patient complains of after-pains, you can comfort her by pronouncing the dictum, "the more babies the more after-pains" and, so far as that is concerned, "for every child a tooth." If you must tell the patient that her after-pains are due to the fact that the uterine tone is lost more and more with each baby and that greater effort on the part of the uterus is required each time in order to expel collected blood clots, she will probably tell you that you are altogether too scientific. "Eating fish during the puerperium will cause flooding," but even so, "the patient must bleed forty days after delivery for purification."

"A patient must not have her hair combed while in bed after her baby has come, because this causes brain trouble," and this covers the whole subject of puerperal psychosis much more briefly than the average psychiatrist can do it. The ninth and tenth days of puerperium are troublesome, because "the uterus drops back on the ninth day," and "the bones go back with a click on the ninth day." Even though it is considered by those who believe in this superstition that it may be perfectly proper to get up on the fourth or fifth day, one absolutely must be in bed on the ninth day. "Milk-leg occurs on the tenth day," and "a patient must on no account get up for the first time on Sunday."

In connection with the care of the breasts in nursing the baby, there is a series of ideas, chief of which are: "There are nine days of sore nipples." Breast engorgement is called "the weed." "If one catches cold and it settles in the breasts, one will get a 'bealing' or a 'gathering' in the breasts." "The mother's intestinal gas is transmitted to the baby through the milk." "Tomatoes are acid and should not be eaten by a nursing mother." "Acid food taken by the mother sours the milk." "The mother must never drink water while nursing the baby because it will strangle the child." "She should not take hold of cold scissors or any other sharp, cold instrument because the milk will be chilled." "Ice cream freezes the milk."

Where the grandmothers and midwives shine and folklore runs riot is in the care of the young baby. In the first place, "a boy baby's cord should be cut long so that it will be virile when it grows up," and for the same reason, "one should turn the stump of a boy baby's cord upward." Then burnt gauze is applied to the cord, which really is not bad as a sterile dressing. "Give the baby a teaspoonful of water immediately after birth and it will never have colic," and do not worry if the baby gets thin, because "a baby loses weight as long as the cord remains attached." "If a new-born baby has a surface likely to be exposed to friction, moisten with the mother's saliva and it will not chafe." This superstition is offered for what it is worth to the pediatricians, as well as the one that a boy baby crying will rupture himself. Every one knows that "light hurts a baby's eyes," although it does seem reasonable to suppose that babies would close their eyelids if it did. Considering eyes, we should remember that some babies get sore and discharging eyes; so to prevent this, "wash the baby's eyes with urine." If that fails, "breast-milk is put in sore eyes" and will positively cure them.

Both boy and girl babies occasionally have breasts engorged with secretion, and because there is no especial reason for it, it is supposed to have been caused by a witch and therefore is rightly called "witch's milk."

"If a female child's tongue is tied, it need not be touched," for obvious reasons. "If the baby wrinkles its forehead and rolls its eyes upward, it is a sign of weak-mindedness." "Babies must be picked up, else they will become liver-grown." "If a child has convulsions, keep its hands open because if the hands become firmly clenched the child will not relax and will die," or "salt the palms of the hands of a child with convulsions." "Tie up a baby's hands because it gives him a sense of security," and watch carefully so that "if a baby yawns you may make the sign of the cross over its mouth in order to prevent the devil from jumping down its throat." Also, one must always say "gesundheit" or "God bless it" when the baby sneezes, "because at this time its soul leaves its body for a moment."

The dicta that "a baby should be taken upstairs with a gold piece in its hand before being taken down, so that it will rise in the world," and that "a child's finger and toe nails should be bitten off instead of clipped for the first year, so that it will not become a thief," should be carefully observed because of their profound influence on the child's later life. I commend to the pediatricians as being much simpler than fussy formulas in cases of malnutrition the fact that if you "measure a sickly child and repeat a doggerel, each part measured grows. Tie knots in the string used for making the measurements and throw it away."

"After delivery, one must go downstairs backward for the first time," and "having a baby is good for a patient with epilepsy," while "the use of the baby's urine on the mother's face and hands will help preserve her complexion."

It is considered very lucky to be born with a caul, and "any one possessing a caul will never drown at sea." It will be remembered that Dickens' David Copperfield "was born with a caul, which was advertised for sale in the newspapers, at the low price of fifteen guineas. Whether sea-going people were short of money about that time," David says, "or short of faith and preferred cork-jackets, I don't know; all I know is that there was but one solitary bidding and that was from an attorney . . . who offered two pounds in cash and the balance in sherry, but declined to be guaranteed from drowning on any higher bargain. Consequently the advertisement was withdrawn at a dead loss, . . . and ten years afterward the caul was put up in a raffle down in our part of the country, to fifty members at half-a-crown a head, the winner to spend five shillings. I was present myself, and I remember to have felt quite uncomfortable and confused at a part of myself being disposed of in that way. The caul was won, I recollect, by an old lady with a hand-basket . . . It is a fact which will be long remembered as remarkable down there, that she was never drowned but died triumphantly in bed, at ninety-two. I have understood that it was, to the last, her proudest boast that she never had been on the water in her life except upon a bridge; and that over her tea . . . she, to the last, expressed her indignation at the impiety of mariners and others, who had the presumption to go 'meandering' about the world."

It was David Copperfield, too, who was born "on a Friday at twelve o'clock at night." To paraphrase his own words, in consideration of the day and hour of his birth, it was decided by his nurse and some sage women of the neighborhood who had taken a lively interest in him several months before there was any possibility of their becoming acquainted with him, that he was destined to be unlucky in life and privileged to see ghosts and spirits, both these gifts attaching to all unlucky infants of either gender, born toward the small hours on a Friday night.

The natural result of all this knowledge, with the evil results that must follow any lack of such knowledge, is that obstetrics has become a specialty! I defy any one to attempt to know all these vital facts that have been outlined unless he gives the subject his undivided attention. Even then he may not do at all, because "it is most unlucky to have a left-handed doctor in attendance on you during confinement."

It would be a waste of time to gather together these ideas merely for the amusement they might furnish. The lesson to be gained from this collection is that women are unduly impressionable, at least about obstetric affairs. When it is considered that obstetrics forms one of the main topics of conversation at Red Cross meetings and bridge parties, it will be understood how such a multitude of fanciful ideas have sprung up and can be kept in existence. Many of these things are firmly believed; and while only a few of them are likely to cause actual physical harm to a pregnant woman, the mental impression on her is most pernicious. Recently, a patient of mine neglected her teeth to such an extent that she developed a pyorrhea which was followed by pyelonephritis. Nothing that I could say could convince her that it was safe to have dental work done during her pregnancy.

A few women seem to take peculiar delight in telling all the horrible obstetric tales they can think of to their pregnant friends, and the doctor is constantly called on to combat the fears that thereby arise.

Mental disturbances of pregnancy and the puerperium are dreaded complications. The less the pregnant woman thinks about herself, the better, so long as her condition is normal and her progress is being watched by a competent physician. Pregnancy is a physiologic process, not to be shrouded in mystery and surrounded by superstitious ideas. It is my opinion that if the physician is more or less familiar with some of the superstitions I have mentioned, he is better able to allay the fears and explain away the doubts that these old-wives' tales produce.

Report of Harvard Cancer Commission

The work of the Collis P. Huntington Memorial Hospital for Cancer Research and of the laboratories of the Cancer Commission of Harvard University for the year ending June 30, 1917, as summarized by Dr. J. Collins Warren, chairman of the commission, states that in a period of a little over five years the commission has been able to build, equip and conduct a hospital of twenty-five beds and to establish a plant, including its dispensary and laboratories, costing about $600,000, and involving an expenditure annually of about $50,000. The research in cancer was at first conducted by the pathologist and the parasitologist, but thus far cancer has not been placed on a microbic basis. The methods of treatment tested include the Hodenpyl serum and the colloidal solutions. The more recent researches and tests have been with reference to the employment of radium and other forms of the application of light rays, and the physicist has been called in, and under the direction of Dr. William Duane, a department of biophysics has been established by the corporation of the university. In connection with the experts of a plant manufacturing electrical apparatus, Dr. Duane has been earnestly engaged in the development of a high frequency and high tension generating plant to be used in connection with the Coolidge tubes for the production of deep penetrating rays which will have the effect of the gamma rays of radium. In this connection, Dr. W. T. Bovie has conducted productive research on the action of the rays of light on the living cell in a state of active division, and has secured new apparatus for carrying on the work. These researches have an important bearing on the problem of cancer growth. The possible chemical solution of the cancer problem has been studied by Dr. Henry Lyman, and Dr. Redfield has made important observations of the effects of radium rays on embryonic tissues. An additional building to be occupied by the laboratories is demanded and will be provided on account of the constant expansion of the work. For the physicians and hospitals of the state, free diagnostic service with relation to cancer has been provided, in connection with which microscopic examinations will be made by competent authorities. Instruction in nurses' laboratory technic has been given during the year by Miss Gibson, who has prepared a textbook on the subject. The chairman says that the work of the past year has shown that slow but steady progress is being made toward the solution of the proper method of treatment of cancer. In the more superficial forms many cures are effected by radium, of which the hospital now has 1 gram. In some internal forms of malignant disease, the results of radiotherapy are encouraging, even though alleviation of suffering for a period is the only result in many cases. Too much stress, the chairman says, cannot be laid on the fact that, in its early stages, cancer is a curable disease.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, CHICAGO, JUNE 10-14.

Alpha Omega Alpha Society, Chicago, June 10.
American Climatological and Clin. Assn., Boston, June 5-6.
American Dermatological Association, Philadelphia, May 23-25.
American Gynecological Society, Philadelphia, May 16-18.
American Laryngological Association, Atlantic City, May 27-29.
Amer. Laryn., Rhin. and Otol. Soc., Atlantic City, May 29-30.
American Medico-Psychological Association, Chicago, June 4-7.
American Ophthalmological Society, New London, Conn., July 9-10.
American Otological Society, Atlantic City, May 28-29.
American Pediatric Society, Lenox, Mass., May 27-29.
American Proctologic Society, Chicago, June 10-11.
American Surgical Association, Cincinnati, June 6-8.
American Therapeutic Society, Richmond, Va., June 7-8.
Conference of State & Prov. Bds. of N. Amer., Washington, June 5-6.
Illinois State Medical Society, Springfield, May 21-23.
Maine Medical Association, Portland, June 4-6.
Massachusetts Medical Society, Boston, June 18-19.
Montana Medical Association, Butte, July 10-11.
Nat. Assn. for the Study and Prev. of Tuberculosis, Boston, June 6-8.
New Jersey Medical Society, Spring Lake, June 25-26.
New York State Medical Society, Albany, May 21-24.
North Dakota State Medical Association, Fargo, June 19-20.
Oregon State Medical Association, Portland, June 27-29.
Rhode Island Medical Society, Providence, June 6.
South Dakota State Medical Society, Mitchell, May 21-23.
Southern Minnesota Medical Association, Winona, Minn., June 24-25.
Washington State Medical Association, July 10.

AMERICAN ASSOCIATION OF IMMUNOLOGISTS

Meeting held at Philadelphia, March 29 and 30, 1918

(*Concluded from page 1330*)

A Skin Reaction to Pneumotoxin

MR. CHARLES WEISS, Philadelphia: This study has been instituted with the idea of using the endocellular toxin of the pneumococcus (hematoxin) rather than the bacterial emulsion. The protein living free pneumococci were dissolved in sodium cholate. A specific reaction was obtainable in guinea-pigs and also in persons suffering from lobar pneumonia. The guinea-pigs were sensitized by a sublethal dose of pneumotoxin. The skin test would appear to be a true test for the presence of pneumotoxin in the body of the animal. By various chemical tests it is found that the pneumotoxin is a true protein, and in human lobar pneumonia cases there was a positive reaction demonstrable throughout the toxemia. In children the reaction was most characteristic. In other cases tested, in such diseases as tuberculosis and appendicitis, a negative test was given to the pneumotoxin.

The Influence of Arsphenamin (Arsenobenzol) and Mercury on Antibody Production

DRS. JOHN A. KOLMER and I. TOYAMA, Philadelphia: The possibility of certain drugs acting as antigens has been the theme of several studies by different workers. The antigenic action of drugs may account for acquired drug tolerance and also aid in resistance to infection by stimulating antibody production against microparasites, apart from direct action of the drug on the parasite. The latter phase of the subject is the one particularly dealt with here. Considerable evidence points to the conclusion that many drugs exert a stimulating action on antibody production by the tissues. Such drugs as arsenous anhydrid, phosphoric acid and mercuric chlorid, administered by mouth, are found to act in this manner. Arsphenamin appears to stimulate agglutinin production, according to some workers. The present experiments were conducted on rabbits, to determine if small daily doses of arsphenamin and mercuric chlorid tended to increase antibody response to alien erythrocytes or to typhoid bacilli. After a series of experiments, five in all, on a large number of rabbits and control animals, it was found that no increase of antibody production was shown, after injections of arsphenamin or mercuric chlorid. On the contrary, it would seem that there was a lowering of antibody production, probably due to lessening of resistance by toxic effects. Further experiments, however, are in progress, on the action of these drugs in experimental trypanosome infections. It is felt that such work should be done on human serums, as work on the serums of lower animals may not be a true index in human cases.

The Bacteriologic Study of Postoperative Pneumonia

MISS MIRIAM OLMSTEAD, New York: I studied 130 cases of postoperative pneumonia, and recorded the recovery of a pathogenic organism in thirty-one cases, a percentage of 23.8. In two cases there was the Type I pneumococcus in the blood stream, one of these pneumococci in preoperative and postoperative sputum. In one there was the Type II pneumococcus in the sputum, before and after operation, and the urine was precipitated by pneumococcus Type II serum. In two cases with an atypical Type II organism in preoperative and postoperative sputum, the etiology was established, in one by a positive agglutination test of the patient's serum, and in the other by a urine precipitin reaction with Type II serum. Type III was established as the inciting factor in five cases; in one there was a positive blood culture; from one the organism was obtained by lung cultures at necropsy; the blood of two agglutinated the Type III, recovered from the postoperative sputum. The urine of these two, and one other, who had Type III in the preoperative sputum specimen, gave a precipitin reaction with Type III serum. In eighteen cases, Type IV was the factor, once being recovered from the blood, and seventeen cases gave a positive agglutination reaction with strains from the sputum. In one of these cases the urine precipitated with Type IV serum. In one case a hemolytic streptococcus was found in the blood stream, and in another a hemolytic streptococcus in the sputum gave a positive thread reaction with the patient's serum. A mucoid streptococcus was found in the sputum and chest fluid in one case. Some of these organisms were undoubtedly the inciting factors of other postoperative pneumonia cases, but no direct evidence could be obtained as to this view. The most common factor was Type I.

DISCUSSION

DR. A. F. HESS, New York: Did pneumonia develop among cases in which the pneumococcus was absent, and if so, how many? In what percentage of cases was there discrepancy in the type of pneumococcus in the preoperative and the postoperative sputum when pneumonia developed?

DR. J. A. KOLMER, Philadelphia: How many patients with pneumococci in the blood stream died? How many showing precipitin reaction died? My impression is that persons showing the precipitin reaction have rather a bad prognosis.

MISS OLMSTEAD, New York: Those persons who gave a urine precipitin test did not seem to have a bad prognosis. No patient died. Three patients had Type III in the sputum and gave precipitin test reactions. No patient died. In reply to Dr. Hess, in three cases there were postoperative findings of pneumococci in the sputum, when none had been demonstrable before operation. The majority of patients had pneumococci before and after operation.

Active Immunization Against Pneumonia

DR. R. KOHN, Boston: Lister gave large doses of heated dead pneumococci of virulent types, at six or seven day intervals. In active immunization against all types, agglutinins and opsonins could be demonstrated eight months afterward. Reports constantly show the desirability of protection against pneumonia. It is believed, however, that immunity against pneumonia was of short duration and that the immune serum deteriorates. Tests were made to discover the protective power of blood serum against infection in white mice, injected intraperitoneally. It was found that normal human serum would protect mice against the minimal lethal dose. Some serum protected against a particular strain. It was found that most persons could be immunized against Types I and II, possibly III, and that after nine months the immunity had not diminished. It may last one year, possibly more. There is no evidence that it is absolutely protective. Adverse conditions may result in a lowering of the danger point.

DR. AUGUSTUS B. WADSWORTH, Albany, N. Y.: I feel a great deal of interest in this work. I have found that differ:t

individuals, exposed to different pneumococcus infections, manifest different degrees of immunity from time to time.

DR. WILLIAM H. PARK, New York: I can cite an interesting case. In the South of France there was a great deal of pneumonia at one camp. The men were vaccinated with cultures from the camp, and in eighteen days the pneumonia disappeared. Another camp used the same vaccine and the results were negative. Using the culture from a camp 50 miles distant did not seem to correspond to the type of infection. It was striking that the cessation of the epidemic in the first camp followed the use of the vaccine.

The Production of Pneumococcus Serum, and the Corresponding Curves Obtained by Protection and Agglutination Tests

DR. G. B. WHITE, New York: The unusual demand for antipneumococcus serum has urged us to put forth every effort to increase the yield from our serum horses. The problem thus has arisen as to how best to spare the horses. The conservation of the animals is an important thing. The heavy draft horses seemed to stand the bleedings better; the lighter types do not last long. A vicious horse with "a great deal of game" is the best type of producer. Type I strain, in virulent culture, is necessary to produce Type I antiserum. If live organisms are used, the preparation is made fresh each time and injected intravenously. Three daily injections of dead cocci are made, then three of living; after a week this is repeated, and six days after the second weekly injection the horse is bled. A standard method had been evolved by which 1 c.c. of serum protects against 0.1 c.c. of Type I pneumococcus. The serum is tested against the maximal amount of culture it will neutralize; also the smallest amount of serum that has protective power is estimated.

DISCUSSION

DR. A. P. HITCHENS, Glenolden, Pa.: What is the plan of bleeding as regards the time of injections? What is the interval between the injections?

DR. J. F. ANDERSON, Washington, D. C.: We have been using a method of six daily injections, in three courses, with seven day intervals. The horse can be bled in thirty-two days. A standard was made to protect against 0.1 c.c., 0.2 c.c. and 0.3 c.c. culture.

DR. G. W. MCCOY, Washington, D. C.: One point is the unreliability of the agglutination power as compared to the protection value. We have had strains sent back marked "N. G." because they did not agglutinate Type I pneumococci, but still there was a high protection power. All commercial serum, before being sent out, is tested by the Hygienic Laboratory.

DR. A. B. WADSWORTH, Albany, N. Y.: Did the high protective serum have any agglutination power at all?

DR. MCCOY: No; it had no agglutination power at all.

DR. WADSWORTH: Was it controlled?

DR. MCCOY: Yes.

DR. WHITE: The horses were bled six days after the last injection. Two courses of injections preceded bleeding. We lost four horses from pneumococcus infection. The first two were protective against 0.1 c.c. culture. Both animals had lobar pneumonia of Type I.

Preliminary Tests to Blood Transfusion

DR. ARTHUR F. COCA, New York: There is little to add to this practically closed subject, but certain facts should be kept in mind in regard to blood constituents, where transfusion is required. Individuals fall into four groups in regard to the red corpuscle qualities. Two different agglutinable substances are present, *a* and *b*, and the plasma of human beings contains iso-agglutinating substances A and B. It may be stated that *a* is never present with A. All possible combinations of the substances, however, occur in different individuals; as many as 4,000 have been demonstrated. The four groups are: I, with iso-agglutinable substances A and B in the plasma; II, with BB in the plasma; III, with A; IV, substances lacking. Most individuals are of Types I and II. Transfusion is most favorable when donor and recipient belong to the same group. Most unfavorable results arise when the recipient's plasma contains agglutinins for the donor's corpuscles. As regards technic: Venous blood is obtained, citrated, and the serum of the patient is mixed with washed corpuscles of the donor, and vice versa. If agglutination be present, it does as much harm as hemolysis; hemolysis never occurs without agglutination. One point to bear in mind is that the donor's blood, not being anemic, is richer than the recipient's blood. One part of the donor's blood to nine of the patient's is sufficient. In this proportion agglutination will take place at once, if at all, and can be readily detected.

DISCUSSION

DR. JOHN A. KOLMER, Philadelphia: I should like to refer to a technic that has been employed during the past year and is somewhat similar to that demonstrated by Dr. Coca; this is the microscopic method with Lee's technic. Two tubes are used, one containing 1 c.c. of sodium citrate in a dry test tube, and one with blood. We use blood from the patient and from several donors (separately). The clots are broken up in the platinum loop. We use two drops of patient's serum with one drop of corpuscle suspension of each donor; then two drops of serum from donor and one drop of corpuscles from the patient. Observations are made at the end of fifteen minutes, when agglutination, if any, is marked.

DR. A. F. COCA, New York: The choice of methods lies with the individual and what apparatus he has at hand. As regards transfusion without preliminary tests, it is known that death has occurred from this procedure, and the surgeon may meet serious trouble.

The Isolation, Purification and Concentration of Immune Hemolysin

DR. M. KOSAKAY, Philadelphia: These studies were made in the Institute of Forensic Medicine, Tokio Imperial University. The concentration of antibodies for the purposes of serum therapy, and the elimination of serum proteins in order to avoid serum sickness, were the objects of the research. First, elimination of serum proteins was attempted; second, extraction of immune bodies by antigens and the use of inorganic substances, such as charcoal. Separation of antibodies from the antigenic substance was found possible. Antibodies were found to be coagulable by high temperatures. The serum elements were removed by washing in sodium chlorid, and the antibody in the final preparation could be measured. The corpuscles were treated with hypertonic sugar solution, which does not produce hemolysis; the corpuscles thus remained intact with the hemolysins attached. Some antibodies were discharged into the sugar solution at ordinary temperature, but more were obtained by raising the temperature, to as high as 60 C., without producing hemolysis. Five sixths of the antibodies were thus discharged, and the concentration was found to be of some value. The supernatant fluid was found to contain hemoglobin, and the attempt was made to get rid of this protein by shaking the sugar solution with ether. This produced three layers: first ether; second, gelatinous mass; third, clear layer of sugar and hemolysins. The latter was dialysed and the sugar removed. When the sugar-free, salt-free solution was evaporated, the hemolysin was left and was five-sixth full strength. It was free from protein reactions.

DISCUSSION

DR. WILLIAM H. PARK, New York: Was Dr. Kosakay able to separate the antibodies from the bacteria, as well as from the red cells?

DR. JOHN A. KOLMER, Philadelphia: Is it possible to secure the hemolysin alone, from the immune serum by this method? Is the final solution free from hemiagglutination?

DR. M. KOSAKAY, Philadelphia: It is a good idea to make the hemolysin free from bacteria. It has not been tried. I have not been able to separate the hemiagglutination from the hemolysin.

A Method of Preparing Bacterial Antigens

LIEUT. J. C. SMALL, U. S. Army: This work is based on the fact that fatlike substances occurring in the bacterial cell

greatly interfere in the aqueous solution of bacteria. No entirely satisfactory method for extraction of bacteria has been accomplished. All methods are directed toward disintegration of the bacterial cell, with the idea of extracting the fragments; but this is better accomplished if the fat and lipoid constituents of the cell be removed. In the present method a chloroform-ether mixture was used to extract the fatlike substances from dried bacteria. The residue was suspended in physiologic sodium chlorid solution. The chloroform ether extraction was found to break up the integrity of the bacterial cell, so as to facilitate its more ready extraction of the fragments by aqueous solution.

DISCUSSION

Dr. J. A. Kolmer, Philadelphia: With regard to heating immune serums at 62 C., I think there is deterioration of specific antibodies present in the serum. This is, however, difficult to measure, as it is hard to differentiate specific from nonspecific factors.

Miss M. A. Wilson, New York: In our experience there is no deterioration. We do not add preservative to the antigen.

Dr. H. von Wedel, New York: In using tubercle bacilli antigen, it was heated five or six times at intervals, and the value remained, as far as I could tell, exactly the same.

Dr. G. H. A. Clowes, Buffalo: If the alkaloids were entirely removed, the temperature could be raised considerably without causing any effect.

Lieut. J. C. Small: I noticed the nonspecific factors in a large series of animals which we were running for typhoid vaccines. Immunization is being carried on and complement fixations and a very large percentage of animals show nonspecificity. Serums with the exception of paratyphosus A, do not show anticomplementary effect.

Experiments on the Passive Transfer of Antibodies to the Cerebrospinal Fluid

Drs. John A. Kolmer and S. Sekiguchi, Philadelphia: The removal of blood from normal dogs, followed by intravenous injection of human syphilitic serum (from 30 to 50 c.c. per kilogram of body weight) caused small amounts of syphilis reagin in the cerebrospinal fluid. This reagin was found in the fluid as early as three hours after the transfusion of syphilitic serum. The amount of reagin found was small. After irritation of the meninges by sterile horse serum, more reagin was found in the cerebrospinal fluid. All traces of reagin disappeared from the cerebrospinal fluid of the dogs within forty-eight hours. Dog typhoid immune serum, injected into a normal dog, intravenously, caused traces of agglutinin to appear in the cerebrospinal fluid within three hours; it disappeared within forty-eight hours. It was thus shown that the passage of antibody from the blood to the cerebrospinal fluid is possible, when the antibody exists in the blood in a high state of concentration. In human syphilis the reagin may pass from the blood, but its presence in the spinal fluid generally indicates the presence and activity of *Spirochaeta pallida* in the organs of the nervous system.

DISCUSSION

Dr. A. P. Hitchens, Philadelphia: The question whether the antibodies can find their way from the blood to the spinal fluid is important, especially in cerebrospinal fever. In cases of severe meningitis in the Army camps, we gave intravenous doses as well as intraspinal, of the antimeningitis serum. Results of this line of treatment are encouraging. Dr. Kolmer's work seems to show that this line of treatment is of value.

Dr. J. Bronfenbrenner, Boston: It is a question as to whether bodies can pass from the blood into the spinal canal. I doubt whether this is possible when the pressure is higher in the spinal canal than in the blood. English workers have concluded that there is a toxin produced by the meningococcus and that this toxin is forced from the spinal canal into the blood stream. If the latter contains antitoxin it would get into the serum, and the improvement would be due to that.

Dr. A. P. Hitchens, Glenolden, Pa.: About every eight hours during the severe part of the disease, we remove the spinal fluid, and with the rapid filling up of the canal again some effect is produced.

Dr. J. A. Kolmer, Philadelphia: This paper simply dealt with the passage of antibody from the blood to the spinal fluid under normal conditions. I cannot agree with Dr. Bronfenbrenner's remarks on the spinal fluid. This is a secretion of the choroid plexus, at least during health. Even when the tension is high, production continues and increases the hydrocephalus. Evidence would prove that the fluid is produced continuously even after rise of pressure.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

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1 *Spina Bifida Occulta. W. M. Brickner.—p. 473.
2 *Diataxia Cerebralis Infantilis; Ataxic Type of Cerebral Birth Palsy. J. R. Hunt, New York.—p. 503.
3 Angina Abdominis. E. H. Goodman, Philadelphia.—p. 524.
4 *Relation of Lupus Erythematosus Discoides to Tuberculous Infection. R. S. Weiss and J. J. Singer, St. Louis.—p. 528.
5 *Aneurysm of Abdominal Aorta with Rupture into Duodenum. S. B. Marlow and F. H. Doubler, Boston.—p. 540.
6 *Relation of Congenital Syphilis to Mental Deficiency. W. H. Higgins, Richmond, Va.—p. 549.
7 Multiple Serositis; Report of Case with Necropsy Findings. G. H. Evans, San Francisco.—p. 553.
8 *Estimation of Urobilin and Urobilinogen in Duodenal Contents. H. Z. Giffin, A. H. Sanford and T. L. Szlapka, Rochester, Minn. —p. 562.
9 *Pleural Eosinophilia. R. Bine, San Francisco.—p. 579.

1. **Spina Bifida Occulta.**—Brickner believes that the following are legitimate indications for operation in cases of spina bifida occulta: 1. In infants and children, spina bifida occulta with congenital lipoma or hypertrichosis, even though without any symptoms—to reduce the spinal hernia into the canal or to meet any other indication that is found, in the hope of obviating the development of symptoms during adolescence. 2. In adults, spina bifida occulta with sufficiently serious and especially with progressive symptoms, whether or not the spina bifida occulta is marked by external signs (lipoma, hypertrichosis). Progressive gangrene of the lower extremities and incontinence of the sphincters are indications sufficient to justify taking this risk. Brickner has found records of twelve operations. He adds five to these all of the seventeen without mortality, and some with decided benefit. In all five operations for spina bifida occulta within Brickner's personal experience there was no untoward result, and the wounds in all cases healed per primam and without any spinal infection.

2. **Diataxia Cerebralis Infantilis.**—The cases cited by Hunt represent an ataxic type of cerebral diplegia which stands in striking contrast to the spastic type of Little and the flaccid or atonic type of Förster. In all of the cases there was a history of severe injury at birth followed by retarded and defective development of the power of motor coordination. There was no paralysis, and if such existed after birth it was of a transient nature and the gross motor power was eventually completely restored. There were no evidences of spasticity. The active and passive movements as well as the reflexes revealed none of the characteristic signs of pyramidal tract involvement. The tonus of the muscles was slightly reduced and the tendon reflexes showed a corresponding reaction, and were moderately diminished and difficult to elicit. There was no undue flexibility of the extremities as occurs in the severer forms of hypotonia. The essential symptom was a generalized ataxic disturbance affecting the gait, station, articulation and the use of the individual members. This was present in all positions, including the recumbent posture, and Hunt emphasizes the persistence of an ataxic disturbance of the arms and legs in the recumbent posture

when no effort was required to maintain the equilibrium. The ataxic disturbance was also increased by closure of the eyes, by mental excitement and by any effort to carry out precise and definite movements.

The disturbance of coordination was bilateral and fairly symmetrical. It affected the finer movements of the hands and fingers as well as movements of the larger joints, and seemed to be equally distributed in this respect. There was, at times, a slight tendency to motor unrest, somewhat suggestive of a choreic disturbance, which Hunt regards as a manifestation of ataxia and the effort to maintain posture. The disorder of motility was clearly ataxic, and was characterized by an inability to carry out precise and definite coordinate movements. It was not in any sense a true chorea or athetosis, the restless atactiform movements in certain postures merely suggesting the choreiform tendency. Dysarthria was also a well marked symptom, and was regarded as part of the ataxia. There was no nystagmus. The sensibility, both superficial and deep, so far as could be determined by the usual clinical tests, was quite normal. Especially noteworthy was the preservation of the sense of posture and the stereognostic sense. In none of the cases was there a serious mental defect. The retardation was no more than might follow a severe disturbance of speech and incoordination and the restriction of opportunity imposed on the child. In none of the cases was there any tendency to grand mal or petit mal seizures. The convulsions occurring immediately after the birth had manifested no tendency to recur in later life. Some improvement had taken place in all of the patients, and there were no indications of an increasing mental deterioration or progression of other symptoms. In this respect the ataxic form resembles the spastic type of Little with its well recognized tendency to improvement.

4. **Lupus Erythematosus Discoides and Tuberculosis.**—Twelve cases of lupus erythematosus discoides were examined for tuberculosis by Weiss and Singer. All available diagnostic methods were employed and a conclusion was reached in each case by study of the combined results and not from any single diagnostic procedure. Ten out of twelve of these cases showed indubitable evidence of tuberculosis, past or present, and it is believed that the other two are also tuberculous. In only one of their series of cases that were definitely tuberculous was there any likelihood of the presence of a circulating tubercle bacillus toxin. In the authors' opinion no evidence has been presented as yet that shows a relation between lupus erythematosus discoides and tuberculous infection or tuberculous disease. It has been shown that tuberculosis past or present may be demonstrated in practically all cases of lupus erythematosus discoides, and this fact should only be interpreted as further evidence of the ubiquity of tuberculous infection and not as evidence of an etiologic relationship between the two diseases.

5. **Rupture of Aneurysm of Abdominal Aorta.**—Marlow and Doubler report two cases of aneurysm of the abdominal aorta apparently of arteriosclerotic origin which ruptured into the duodenum.

6. **Relation of Congenital Syphilis to Mental Deficiency.**—The results of the serologic studies on fifty cases admitted to a psychologic clinic are recorded by Higgins. The material for this clinic is drawn largely from the retarded classes of the Richmond public schools, the juvenile court, and other agencies interested in the social welfare of the city. They were sent for the purpose of obtaining the estimate of their mental development as well as a clue to any factors influencing their mental and moral stamina. In this series 21, or 42 per cent., gave a positive Wassermann reaction. Their ages varied from 7 to 16 years. The series is composed largely of the middle and high-grade imbecile and only exceptionally with the low grade idiot. Quite at variance with other reports is the striking relative absence of congenital syphilis or organic lesions of the nervous system. Approximately one half showed a general glandular enlargement. Defects of vision, tonsils, etc., were found no more frequently than in the nonsyphilitic series. The most interesting and suggestive physical aspect was the malformation and caries of the teeth. Temperamentally the series presented an interesting picture; fourteen of the twenty-one were either incorrigible, disobedient, or displayed fits of temper unlike those usually seen in the normal child. Higgins feels that the listless, low grade idiot is so likely to be of syphilitic origin as the high strung, passionate child with wayward tendencies.

8. **Urobilin and Urobilinogen.**—With a few slight modifications of technic the authors have used the method of Schneider in estimating quantitatively the amounts of urobilinogen and urobilin in the duodenal contents obtained by means of an Einhorn tube. In a group of twenty-two miscellaneous cases, low values were obtained in patients with anemia from hemorrhage, carcinoma, tuberculous peritonitis, syphilis, portal cirrhosis, chronic infectious arthritis, and gallstones. They were low in three of four patients with myelocytic leukemia. The amounts of these pigments were especially low in cases of anemia from hemorrhage. In hemolytic jaundice the values were consistently high even when severe anemia was not present. The values fell appreciably after splenectomy, but not as promptly as in pernicious anemia. In pernicious anemia the amounts of urobilin and urobilinogen in the duodenal contents were above normal in 84 per cent. of the cases. The amount of urobilinogen was constantly increased when the anemia was severe. Patients over the age of 55 showed lower values than younger patients. The values presented no definite relationship to the size of the spleen. Following splenectomy there was a very definite decrease in the amounts of urobilin and urobilinogen; the decrease in urobilinogen was especially noticeable. The amounts of bilirubin in the duodenal contents did not run constantly parallel to the amounts of urobilin and urobilinogen.

9. **Pleural Eosinophilia.**—Bine reports two cases of atypical pulmonary infections, followed by pleural effusions. In the first case the blood showed 1 per cent. eosinophils, the pleural fluid 51 per cent. Four years later, long after the patient's complete recovery, the blood still contained 32 per cent. eosinophils. In the second case the pleural fluid contained 30 to 40 per cent. eosinophils, the blood 16 per cent., then 14.5 per cent., 10 per cent., and 19 per cent., three weeks after the first count.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

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10 Woman's Hospital in State of New York. J. R. Goffe, New York.—p. 529.
11 Intermittent Hydronephrosis and Pyonephrosis in Female with Special Reference to Abnormally Movable Kidney and Ureter. D. Bissell, New York.—p. 543.
12 Hypernephroma of Kidney. L. W. Strong, New York.—p. 577.
13 Case of Uterus Bicornis with Rudimentary Hemiatretic Horn. E. Schwarz, New York.—p. 583.
14 Perforation of Vagina by Papillary Cyst of Ovary. H. Grad, New York.—p. 588.
15 Some Problems in Gynecology. A. Flint, New York.—p. 599.
16 Toxemias of Pregnancy. F. A. Dorman, New York.—p. 604.
17 Ileus Following Gynecologic Laparotomies. E. W. Pinkham, New York—p. 614.
18 Statistical Study of One Hundred Cases of Pyosalpinx. H. Grad, New York.—p. 630.
19 Surgical Record System of Woman's Hospital. L. Broun, New York.—p. 642.
20 *Bloodless Repair of Cervix Uteri. A. Heineberg, Philadelphia.—p. 652.
21 Present Status of Deep Roentgenotherapy. F. J. Shoop, Brooklyn.—p. 656.
22 Use of Corpus Luteum Extract Hypodermically in Cases of Repeated Abortion without Demonstrable Cause. J. C. Hirst, Philadelphia.—p. 662.
23 Safeguarding Children in War Time. T. King, New York.—p. 678.

20. **Bloodless Repair of Cervix Uteri.**—The method employed by Heineberg is as follows: Hemostasis is secured through the use of two angulated tenaculum forceps and a rubber ring such as is sometimes employed to hold together the tops of umbrella ribs. The chief feature of the forceps in addition to the angulation is a pedunculated ball which is attached to the outer aspect of each blade above the angle. The balls serve the purpose of retaining the rubber ring in a position to compress the cervix above the grasp of the forceps. The forceps also act as lateral retractors of the vagina.

American Journal of Public Health, Boston

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29 Report on Registration Affairs. W. H. Davis, Washington, D. C. —p. 291.
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32 Need for General System of Sanitary Supervision of Industries in Times of War. E. R. Hayhurst, Columbus.—p. 301.
33 Report on Visual Acuity of Members of Corps of Cadets, at Military Training Camp, Peekskill, N. Y. F. A. Woll, New York. —p. 304.
34 Concentration of Glucose and Lactose and Viability of Coli-Like Bacteria. H. A. Burling and M. Levine, Ames, Iowa.—p. 306.

American Review of Tuberculosis, Baltimore

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35 Elementary Concepts of Tuberculosis. A. K. Krause, Baltimore. —p. 63.
36 Control of Tuberculosis. H. M. Bracken, Minneapolis.—p. 72.
37 One Hundred and Thirty-One Cases of Tuberculosis Treated by Artificial Pneumothorax. W. B. Kendall and C. C. Alexander, Gravenhurst, Ont.—p. 79.
38 Acute Pulmonary Abscess Treated by Artificial Pneumothorax. S. Simon and S. Swezey, Denver.—p. 92.
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41 *Bismuth Paste in War Surgery. E. G. Beck, Chicago.—p. 392.
42 Injuries to Malar Bone and Zygoma. T. W. Todd, Cleveland. —p. 403.
43 Kineplastic Amputations. V. Gaudiani, New York.—p. 414.
44 Splint for Treatment and Transport of Cases of Fracture of Femur. J. H. Stevens, Boston.—p. 429.
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47 *Biologic and Clinical Evidence of Therapeutic Value of Radium and Roentgen Rays in Cancer. I. Levin and M. Levine, New York.—p. 442.
48 Conservation of Thyroid in Hyperthyroidism. J. Rogers, New York.—p. 447.
49 Madderized Bone as Material for Bone Grafts. M. DeG. Thurlow and C. C. Macklin, Baltimore.—p. 454.
50 Use of Small Bone Transplants in Bridging Bone Defect. F. W. Bancroft, New York.—p. 457.
51 Case of Isolated Abscesses of Long Bones. A. M. Miller, Danville, Ill.—p. 460.
52 Nitrous Oxid, Oxygen, Anesthol Sequence in Oral Surgery. C. H. Sanford, New York.—p. 462.
53 Rectus Muscle Transposition in Certain Cases of Inguinal Hernia. W. S. Schley, New York.—p. 465.
54 Use of Olive Oil in Blood Vessel Suturing. J. S. Horsley, Richmond, Va.—p. 468.
55 Saphenous Varix Simulating Femoral Hernia. E. H. Richardson, Baltimore.—p. 471.
56 *Recurrence of Symptoms Following Operations on Biliary Tract. E. S. Judd, Rochester, Minn.—p. 473.
57 Acute Dilatation of Stomach Following Prostatectomy; Report of Case. H. L. Kretschmer, Chicago.—p. 489.
58 Mechanism of Obstruction in Prostatic Adenoma. A. Hyman, New York.—p. 493.
59 Teratoma of Sacrum; Glioma of Upper Abdominal Cavity. J. E. Thompson, Galveston, Texas.—p. 496.
60 Repair of Complete Rectovaginal Lacerations. I. S. Haynes, New York.—p. 501.
61 Cancer of Rectum. J. M. Lynch, New York.—p. 504.

40. **Chlorin Antiseptics in Civil Hospital Use.**—The following conclusions have been reached by Hartwell and his associates after four months' intensive study at Bellevue Hospital with the chlorin antiseptics: 1. The establishment of the Carrel-Dakin technic presents no undue difficulty. 2. The results obtained in the military hospitals abroad can be duplicated in general civil hospitals in dealing with traumatic cases. 3. These antiseptics are not as efficient in controlling spontaneous infections, that is, those not directly due to trauma. They are not as valuable in burns as other forms of treatment. 4. Reasonable care prevents skin burns in all circumstances. 5. Dichloramin-T in either chlorinated eucalyptol or chlorinated paraffin oil is not a completely efficient substitute for the sodium hypochlorite solution. These men feel that four months' experience has satisfactorily demonstrated the practicability and the advantages of using the Carrel-Dakin treatment in those civil hospitals where a considerable number of traumatic cases are treated. In those civil hospitals where a traumatic service is not an important part of the hospital work, Hartwell believes it is doubtful whether the inauguration of this treatment will meet with great success, for the reason that the call for its use will not be frequent enough to make it an established routine. Without this, it probably would be no more effectively applied than is any other special form of treatment which is only occasionally demanded in a general hospital service, and if ineffectively applied it cannot be expected that satisfactory results will follow.

41. **Bismuth Paste in War Surgery.**—Beck's experience leads him to advise the use of bismuth paste in war surgery, where the majority of wounds are infected before they reach the base hospital. Carrel employed the method at the French base hospital at Compiegne in 1916 with satisfactory results, with material and instruments Beck sent him at that time. Richter, in charge of one of the Red Cross units which for a time worked in a German base hospital, also used this method of injecting suppurative wounds resulting from shrapnel, gunshot and bayonet, and reported most satisfactory results. Beck urges that in those cases in which early sterilization was not obtainable and the wounds persist in suppurating, the bismuth paste injection or similar formula should be employed, before another radical operation is resorted to. In the residue of cases in which the bismuth paste treatment is not effective, the sutureless skin sliding operation should be employed, since with this method we are able to clear up nearly all of these apparently hopeless cases.

47. **Value of Radium and Roentgen Rays in Cancer.**—On the basis of clinical and experimental investigations the authors conclude that: It is advisable to radiate malignant tumors not only after an operation, but in a certain class of cases also before an operation so as to sterilize and inhibit the proliferation of those cancer cells which may be left behind or transplanted elsewhere in the course of an operation. Such a procedure does not prolong appreciably the time preparatory to an operation and presents no danger to the patient. The fear expressed by some clinicians that the raying may occasionally irritate and increase the rate of growth of the tumor is unfounded. There is no clear experimental evidence of such irritating action of the rays on young proliferating cells. The result is always an inhibition. The clinical evidence of the existence of an irritating action of the rays is also very vague and not convincing. One must keep clearly in mind the fact that any malignant tumor may suddenly increase its rate of growth and consequent malignancy without any relation to the instituted mode of treatment. In a series of twenty cases of carcinoma of the rectum the following observation was made. In the cases in which an attempt at a radical operation was made the condition recurred with greater rapidity and malignancy than in those cases in which there was no operation done and only radium and roentgen-ray treatment given or an exploratory was done followed by radiations. Similar observations are surely made by any surgeon with a large cancer material. In this series of cases the malignant recrudescence of the disease was not caused by the operative interference, but accidentally took place after the operation. The same holds true of the recrudescences which occasionally may take place after radium or roentgen-ray treatment, thus preoperative and postoperative radiations of cancer as a method of inhibiting the proliferating power and the consequent clinical malignancy of the tumor-cells is of undoubted value and presents no danger.

56. **Recurrences After Biliary Operations.**—Judd and Harrington reviewed the histories of patients operated on for recurrence in the past two years at the Mayo Clinic. There were 2,027 operations, of which 219 (10.8 per cent.) were

secondary. A large number (80 per cent.) of the operations were for the removal of the gallbladder, a procedure which has been accepted in the clinic as the operation of choice. One hundred and twenty of the 219 secondary operations were for the removal of gallbladders which had been drained previously. There was only 0.8 per cent. mortality in the series, showing that the risk in the secondary operation is no greater than in the primary operation. In 4 of the 219 cases, a secondary cholecystostomy was done because the general condition of the patient contraindicated any further procedure. Two of these patients died. In 109 of the 219 operations, calculi were found either in the gallbladder, the ducts, or in both. One hundred and fifty-three patients had cholecystitis, in some instances associated with stones. Adhesions were especially noted in 148 cases, and in 41 there was a definite pancreatitis. Either a mucous or a biliary fistula was present in 37 cases. Seventeen of the 209 patients were definitely jaundiced. At the time of the first operation stones were found in 154 of the 219 cases; in the gallbladder in 140, in the ducts in 9, and in the gallbladder and ducts in 5. Stones were found at the second operation in 109 cases; in 59 cases in the gallbladder; in 9 in the gallbladder and ducts; and in 41 in the ducts. In 64 of the 219 cases both the primary and secondary operations were performed in this clinic. In 37 of this series a drainage operation had been performed primarily; 29 for stones and 8 for cholecystitis. Of the 29 patients with stones in the gallbladder at the first operation, 13 had stones in the gallbladder at the second operation, and 4 of these had stones in the ducts also. Of the 8 cases in which drainage was done for cholecystitis, in 2 stones or stony material which was not present at the first operation was found later. In 12 of the 64 cases, the primary operation was cholecystectomy; in 6 of these stones were removed from the common duct at the second operation. The impressions which Judd and Harrington have gained in reviewing this series of 2,027 cases are that: 1. Removal of the gallbladder reduces the risk of later troubles, and ordinarily is to be preferred to cholecystostomy for drainage. 2. It is not necessary to open and probe the common duct at every gallbladder operation. 3. Infection in the liver, gallbladder, or ducts is the most frequent cause of secondary trouble, and many recur many years after the primary operation. 4. The recurrence of stones is more frequent in the gallbladder than in any other part of the biliary tract. The common duct is next in point of frequency. 5. In a definite small percentage of cases stones will be overlooked in the common duct; in other cases the stones reform in the duct.

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92 Macroscopic and Microscopic Findings in Poliomyelitis. J. H. Larkin, New York.—p. 719.
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97 Sensory Changes in Traumatic Neuritides from Standpoint of Protopathic and Epicritic Sensibility. I. S. Wechsler, New York.—p. 46.
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104 Cortical Hemi-Astereognosis with Acro-Agnosis. I. S. Wechsler and F. Tilney, New York.—p. 75.

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106 Pathogenesis of Dementia Praecox in Its Relation to Borderline Psychoses. M. Osnato, New York.—p. 106.
107 *New Clinical Test for Temperature Sensitivity. E. L. Cornell, New York.—p. 119.

95. **Cerebral Neoplasm Proving to Be Carcinoma.**—McKendree's patient presented the following symptoms: itching of the right side of the tongue; a sensation of coolness in the right side of the face; pain in the temporal region and forehead of the right side; a sensation of being pulled outward in the right side of the lower lip; the right eye was turned in. The onset was gradual and the course has been progressive. The intensity of the headache has been variable, but it has progressed recently to such an extent that it is almost unbearable. He was never nauseated and never vomited; except for diplopia his vision has been unaffected. He has not lost weight. There have been no night sweats. His bowels are constipated. There is no nocturia. His sphincters are unaffected. He has never been dizzy, except when he attempts to use his eyes without his exclusion glass. His appetite is normal, although he does not taste as well as he formerly did. In the nasopharynx was a mass situated at the

vault about the size of half an English walnut, spongy in appearance with many minute blood vessels appearing on the surface. Gentlest application of a cotton applicator through the nose causes a hemorrhage from this mass. This mass nearly fills the midline, and to the left of the line. It covers one pharyngeal end of the Eustachian tube on the right. Diagnosis: Carcinoma of hypophysis. Tissue removed later during an exploration proved to be definitely carcinomatous and of the same type as that removed from the vault of the nasopharynx, which proves its origin.

101. **Combined Dystrophy with Loss of Vesical Control.**—In summing up the abnormal features of this case McKendree emphasizes the Aran-Duchenne type of shoulder pelvic girdle atrophy; the Erb's type of pseudohypertrophic dystrophy, the absent ankle jerks, and the vesical incontinence. All of these occurred in a man who is one of three who are similarly affected (except for the bladder symptoms). This case, though not typical of any one type of dystrophy, apparently represents a combination of three well known types of myopathy.

103. **Multiple Sclerosis with Kymographic Studies of Tremor.**—This is a case of definite ataxia, equilibratory and nonequilibratory. The patient cannot stand steady with the feet together and cannot stand at all with the eyes closed; she has an ataxic gait, a coarse intention tremor of both arms and legs, with a mild tremor of the head. She has a dysphonia; also an absolute inability to write, owing to the wide excursions of the tremor. There is a strong probability of Gordon and Schäfer on the right side, practically certain, and the possibility of a Babinski on that side (doubtful). The upper lateral abdominals are possibly unequal, the left less constant than the right. The patient gives a history of gradual onset over a period of five years, including several spells of falling, due to a sudden giving way of the right leg; no loss of consciousness. She also gives a history of several (probably six) fainting spells, the cause of which is not made clear and, further, several attacks of a "hysterical" nature. Hallock is certain that these symptoms point rather definitely to a diagnosis of multiple sclerosis although the reflexes are nowhere exaggerated and are even diminished in the legs and there is no sign of spasticity; and there is an absence of fundus changes and nystagmus. The tracings of the tremor made are of the multiple sclerosis type.

107. **Clinical Test for Temperature Sensitivity.**—Cornell summarizes the results of her study as follows: More than half of the total number of reactions to simultaneous cold and hot stimulation elicit first cold, then hot. The back and abdomen have a higher percentage than other regions of such responses. The proportion of responses to double stimulation that does not include both responses is small—8 per cent. on the average, with a minimum of 3 per cent. and a maximum of 20 per cent. The reaction time to cold and hot stimuli separately does not show any distinct difference, as measured in this way, except perhaps on the abdomen and back. The length of the first interval, when "cold" is the first response to the double stimulation, is about 1.0 second; the length of the second interval, about 0.4 second, on the average. A second interval of more than 1.0 second is rare. The order in which the response occurs whether "cold-hot" or "hot-cold" is probably dependent in part on the simultaneity of application and in part on physiologic conditions. Individual differences in all of these respects are so considerable that a wide deviation from the average must be admitted as normal.

New York State Journal of Medicine

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108 Surgical Histology and Anatomy of Breast. P. Syms, New York.—p. 131.
109 Treatment of Benign Tumors of Breast. J. B. Deaver, Philadelphia.—p. 137.
110 Baby That Cannot Take Milk. T. W. Clarke, Utica.—p. 141.
111 Is It Syphilis or Not? W. S. Gottheil, New York.—p. 155.

Northwest Medicine, Seattle

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112 Mental Defects Found in Army. R. P. Smith, Seattle.—p. 99.
113 Character of Violent Ward. A. C. Stewart, Fort Steilacoom.—p. 103.
114 Progressive Pernicious Anemia. W. S. Griswold and W. C. Heussy, Seattle.—p. 105.
115 Two Hundred Consecutive Hernia Operations. A. A. Matthews, Spokane.—p. 110.
116 Surgery of Spinal Tumors. M. G. Sturgis, Seattle.—p. 113.
117 Suspension Laryngology. W. G. Cameron, Tacoma.—p. 117.

Pennsylvania Medical Journal, Athens

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120 Mediastinum, with Clinical Significance of Its Pathologic Lesions. C. L. Palmer, Pittsburgh.—p. 442.
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122 Uteroscopy. A. Heineberg, Philadelphia.—p. 458.

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123 Uniformity in Wassermann Reaction. W. Litterer, Nashville, Tenn., and C. Watterston, Birmingham.—p. 263.
124 Parasitology and Serology of Syphilis. A. Keidel, Baltimore.—p. 267.
125 Syphilis of Lung; Report of Case. J. A. Witherspoon, Nashville, Tenn.—p. 274.
126 Syphilis of Heart and Aorta. B. W. Fontaine, Memphis, Tenn.—p. 278.
127 Syphilis of Stomach and Intestines. S. K. Simon, New Orleans.—p. 280.
128 Gastro-Intestinal Case Illustrating Persistent Psychic and Neurotic Elements. M. H. Smith, Jacksonville, Fla.—p. 288.
129 Civilian Influence on Military Problem, Venereal Disease. P. B. Johnson, Washington, D. C.—p. 290.
130 Distribution of Vaccines and Serums by State. C. A. Shore, Raleigh, N. C.—p. 296.
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132 Aneurysm of Axillary Artery; Report of Case. T. H. Hancock, Atlanta, Ga.—p. 305.
133 Bilateral Tubal Pregnancy (Simultaneous); Report of Case. M. F. Bledsoe, Port Arthur, Texas.—p. 307.
134 Five Unusual Cases of Nasal (Sphenopalatine) Ganglion Neurosis. G. Sluder, St. Louis.—p. 312.
135 Safety in Cataract Operation. J. W. Jervey, Greenville, S. C.—p. 314.

Southwest Journal of Medicine and Surgery, El Reno, Okla.

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136 What Relation, if Any, Does Eyestrain Have to Epilepsy? A. C. McFarling, Shawnee.—p. 73.
137 Indication and Technic for Tonsillectomy. T. L. Higginbotham, Hutchinson, Kan.—p. 79.
138 Indications for Operation in Acute Middle Ear Infections. H. Bailey, Springfield, Mo.—p. 81.

Southwestern Medicine, El Paso, Texas

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139 Venereal Clinic. V. V. Wood, El Paso.—p. 1.
140 Epididymotomy for Gonorrheal Epididymitis. F. C. Parrott.—p. 3.
141 Malignancy of Ovarian Cysts. J. Vance, El Paso.—p. 5.
142 Laboratory Study of Cerebrospinal Fluids. H. P. Mills, Phoenix, Ariz.—p. 15.
143 Pathologic Significance of Roentgenologic and Hematologic Findings in Tuberculosis. W. W. Watkins, Phoenix, Ariz.—p. 20.

Texas State Journal of Medicine, Fort Worth

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144 Recent Advances in Diagnosis of Children's Diseases. M. A. Hopkins, Dallas.—p. 409.
145 Nonsurgical Treatment of Endometritis. M. O'Brien, San Antonio.—p. 411.
146 Injuries to Base of Brain. M. M. Walker, Wichita Falls.—p. 413.
147 First-Class Risk. W. P. Ball, Cleburne.—p. 415.
148 Metastatic Infections. Z. T. Scott, Austin.—p. 417.

West Virginia Medical Journal, Huntington

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149 Evolution of Medical Legislation in West Virginia. W. W. Golden, Elkins.—p. 361.
150 Cause of Tubal Pregnancy. W. S. Gardner, Baltimore.—p. 370.
151 Red Cross Is the Mobilized Heart and Spirit of People. Its Part in World War. H. A. Giltner, Parkersburg.—p. 273. To be continued.

Wisconsin Medical Journal, Wilwaukee

April, 1918, **16**, No. 11

152 Wassermann Test in Relation to Diagnosis and Treatment of Syphilis. O. H. Foerster, Milwaukee.—p. 423.
153 Diagnosis, Treatment and Prevention of Defective Hearing. F. Pfister, Milwaukee.—p. 430.
154 Eye in Industrial Accidents. N. M. Black, Milwaukee.—p. 435.
155 Two Cases of Anthrax. E. H. Mensing, Milwaukee.—p. 442.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

March 30, 1918, **1**, No. 2987

1 Functional Anatomy of Heart. A. Keith.—p. 361.
2 *Tolerance of Physical Exertion, as Shown by Soldiers Suffering from So-Called "Irritable Heart." T. Lewis.—p. 363.
3 Rheumatoid Arthritis. E. A. Dent.—p. 365.
4 *Treatment of Gas Gangrene. H. M. W. Gray.—p. 369.
5 Case of Pyemia Treated with Intravenous Injections of Eusol. R. Aitken.—p. 369.
6 *Treatment of Psoriasis in Army. H. W. Barber.—p. 369.
7 Electrical Treatment of Muscles in Trench Feet. G. M. Levick. —p. 370.

2. **Irritable Heart Treated by Graded Exercises.**—Nearly 3,000 patients with diagnosis of "D. A. H." (disordered action of the heart) or "V. D. H." (valvular disease of the heart) have been submitted to graded drills by Lewis and his associates. There has been no single accident of consequence. Where several hundred men are drilled each day, a fainting attack on drill is less than a monthly incident. The chief form of attack, and one which may always be regarded as genuine, is that accompanied by a feeble and slow heart action (30-50). It may be preceded by a short interval of giddiness, by a sense of weakness or unsteadiness. Consciousness is lost, and the fall is sudden, but rarely heavy. Pallor and sweating are present. Involuntary movements are slight, and usually confined to the face and arms; a general rigidity may be developed; the tongue is not bitten, neither is the urine passed. Nausea or vomiting may be present. The attack lasts from a few seconds to a few minutes, and is followed by lassitude and headache. A history of earlier attacks is common; these are associated usually with emotion (sight of blood, etc.), long standing at attention or the cessation of sudden effort; they do not occur in recumbency. Recovery is always complete, and an attack should not break the routine of drill for more than forty-eight hours.

Lewis says that attacks which are inconsistent with this picture are to be viewed with suspicion unless they may be ascribed to epilepsy. A complaint of fatigue or exhaustion is rarely unaccompanied by other complaints, and may be disregarded unless often repeated and accompanied by signs, such as pallor, or by uncontrollable tremor of lips or limbs, or by signs of breathlessness, as the grade of exercise is raised. Stiffness of the limbs or trunk muscles, accompanied by tenderness, is experienced by some unpromising cases to an unusual degree as an after-effect of short exercise. Pain in the axillary region, back, or limbs is usually related to a particular action during drill, and as a general rule does not endure.

4. **Treatment of Gas Gangrene.**—Gray urges the wide recognition and application of a principle which he believes is essential for the successful prevention and eradication of gas gangrene in war wounds met with in France. The causative bacilli of gas gangrene will not develop in tissues which are provided with a vigorous circulation of healthy blood. They thrive best when the circulation is entirely stopped, for example, in a person dead of gas gangrene or in a limb of a living person where the main vessels have been severed. Long application of a tourniquet often allows the infection to obtain a firm hold. Feebleness of circulation in the wounded part, whether from a general cause, such as shock, or from a local cause, such as tension, from effused material or pressure of foreign bodies, favors its development. The injured muscle or group of muscles is deprived, in part or in whole, of its normal blood supply according to whether the missile severs the main nutrient vessels or merely causes isolation of lacerated portions. Pressure in the neighboring parts, whether caused by effused material in the wound, by inflammatory reaction, or by external constriction, interferes still further with the circulation, and forms a most important arc of the ever widening vicious circle of spreading inflammation.

From purely clinical observations, the following principle has been evolved by Gray: Whether one undertakes preventive, preinflammatory operation, or curative operation after the gangrene has developed, success and safety are assured only when the wounded parts are excised until definite bleeding of the cut surface is seen. The bleeding must be definite; it need not be free. In preinflammatory operations the use of a tourniquet during operation may be permissible; it is not advisable unless the patient is exsanguiante. In cases in which gangrene is already well marked it should not be used. Care must be taken that in excising parts at the later stages of the operation the blood supply of tissues left behind at an earlier part of the operation is not interfered with; therefore, as a rule, proximal parts should be excised before distal parts. Gray has usually found it easy to decide, when this principle is kept in view, how much should be excised—whether only part of a muscle, the whole muscle, a group of muscles, or the limb. Surgeons who base their work on this principle have more success, and have to perform fewer secondary operations than those who do not follow it.

6. **Treatment of Psoriasis in Army.**—Out of 1,100 patients admitted to the hospital for skin disease, Barber says, fifty-six (that is, about 5 per cent.) are being treated for psoriasis. In order to return these cases to duty as quickly as possible he has adopted the following method, which has afforded more rapid and uniform results than any other that he has yet tried. The patient attends for treatment twice daily. Every morning he is given a bath, to which on the first two days cresol (1 ounce to an ordinary sized bath) and an alkali (a handful of sodium or potassium carbonate) are added; on subsequent mornings the cresol is omitted. After the morning bath, and again in the evening, the following ointment is applied to all affected parts from the neck downward, excepting the genitals:

℞	Chrysarobinae		66
	Acidi salicylici	1	
	Phenolis		66
	Zinci oxidi	6	
	Lanolini et petrolati	āā 30	

Throughout the period of treatment a suit of pajamas is worn next the skin night and day, and thus becomes thoroughly impregnated with the ointment. The patient is inspected by the medical officer at least every second day.

As a rule, the ointment is well tolerated, but, should any area of skin become acutely inflamed and tender, the application of the ointment to that part is at once discontinued, and, instead, some soothing preparation, such as Lassar's paste (to which a little ichthyol may well be added), is kept thickly applied to the affected region. The genitals are throughout protected by Lassar's paste. At the end of a week, sometimes earlier, the eruption in most cases is to a large extent cleared, whereon Lassar's paste, containing 10 grains of salicylic acid to the ounce, is applied to the treated parts, to allay irritation and assist desquamation. A clean suit of pajamas is at the same time issued to the patient, and at this stage a bath on alternate days only is given.

Resistant patches are commonly seen on the elbows and knees, wrists and hands, in the hollows just behind the great trochanters, and sometimes elsewhere. In the treatment of these a stronger ointment is employed as follows:

℞	Chrysarobinae		133
	Acidi salicylici	1	66
	Phenolis		66
	Zinci oxidi	6	
	Lanolini et petrolati	āā 30	

This is rubbed well into the patches twice daily, and is also kept applied to them on lint during the night, providing the healthy skin immediately surrounding them is not actively inflamed. In order to prevent the occurrence of conjunctivitis the chrysarobin ointment is not used on the scalp and forehead. The hair is cut very short and the scalp shampooed three times a week. An ointment of the following composition is kept applied by means of lint, or, better, a closely fitting linen cap:

℞	Acidi pyrogallici		66
	Acidi salicylici	1	
	Phenolis		66
	Unguenti hydrargyri oxidi flavi	30	

As a rule, psoriasis of the face and front of the neck will yield to zinc ointment containing 10 grains of ammoniated

mercury and 20 to 30 grains of salicylic acid. In more resistant cases the pyrogallic acid ointment, as recommended for the scalp, has proved effectual.

Internal treatment is only adopted in certain cases. Florid persons with an inflamed eruption are kept for a time on a milk diet, with plenty of fluids, and freely purged, and a mixture containing vinum antimoniale and potassium citrate is prescribed thrice daily. In another class of patient there is evidence of intoxication from some septic focus—frequently, apparently the mouth. In these cases a thymol mouth wash is directed to be used several times a day, the sockets of the teeth are cleansed with hydrogen peroxid, the bowels are kept well opened, and a mixture containing dilute hydrochloric acid and nux vomica is given after meals.

Very acute cases, and those in which the eruption is inflamed and angry looking, should not be treated at once with the chrysarobin ointment. Free purgation and diuresis, a milk diet, and the administration of vinum antimoniale, together with the local application of Lassar's paste, containing salicylic acid and ichthyol, form the lines along which treatment should first be directed. When the acuteness of the eruption has subsided the method of treatment already described may be cautiously begun. No patient who is suffering from boils or other forms of pyodermia should begin the treatment until these have been cured; otherwise very acute dermatitis is apt to be provoked.

As seborrheic subjects are peculiarly susceptible to all forms of external irritation, the treatment of psoriasis in them must be carried out under very careful supervision in order to avoid chrysarobin dermatitis. The following alkaline citrate mixture is very useful in these cases: sodium citrate, 30 grains, potassium carbonate, 15 grains and 15 grains of sodium bicarbonate thrice daily one hour before meals.

Edinburgh Medical Journal

April, 1918, **20**, No. 4

8 Crossed Aphasia; Mirror Writing. B. Bramwell.—p. 220.
9 Quinin Urea Hydrochlorid in Pneumonia. E. Matthew.—p. 227.
10 Cerebrospinal Fever: Symptoms and Diagnosis. P. W. Maclagan. —p. 232.

Dublin Journal of Medical Science

April, 1918, **145**, No. 556

11 Scope of Hysterectomy in Malignant Disease of Uterus. R. D. Purefoy.—p. 201.
12 Impressions of Value of Roentgen Ray Treatment. W. G. Harvey. —p. 204.
13 Case of Poisoning by Corrosive Sublimate. G. Fitzgibbon.—p. 215.
14 General Law and Individualism. E. Wooton.—p. 220.

Glasgow Medical Jorunal

March, 1918, **89**, No. 3

15 General Survey of Five Years' Work in Sanatorium. J. Crocket. —p. 129.
16 Causes of Infantile Mortality. L. Findlay.—p. 145.

Lancet, London

April 13, 1918, **1**, No. 4937

17 Cardiac Pathology. F. W. Price.—p. 521.
18 Treatment of Fracture of Lower Limb. G. C. Sneyd.—p. 524.
19 *Cardiac Disabilities of Soldiers in France (V.A.D. and D.A.H.). W. E. Hume.—p. 529.
20 *Delayed Primary Suture of Wounds. J. T. Morrison, J. N. J. Hartley and E. F. Bashford.—p. 534.
21 Incarcerated Sepsis. A. E. Morison.—p. 535.
22 Impressions of Roentgen Ray Treatment. W. G. Harvey.—p. 536.

19. **Cardiac Disabilities of Soldiers.**—The results of an inquiry into the cardiac and circulatory conditions of 5,000 soldiers who were sent to a base with the diagnosis of "V. D. H." (valvular disease of the heart) and "D. A. H." (disordered action of the heart) are detailed by Hume. All these cases were admitted to a convalescent camp, and on admission a history was taken and a physical examination was made. At the first examination, 8.3 per cent. of patients were found to be suffering from easily recognizable diseases which were in no way circulatory in origin. The remaining 91.7 per cent. of patients complained chiefly of breathlessness, pain in the chest, palpitation, giddiness and other less easily definable symptoms. This entity has been described as the soldier's heart, the irritable heart of soldiers, and in the army nomenclature as disordered action of the heart. In this group are fifty-five cases of organic disease of the heart, in which are included three cases of paroxysmal tachycardia. One hundred and sixty-nine had been sent with a frank diagnosis of valvular disease of the heart, though in only fifty-five cases was there any justification for such an opinion. Hume says that the proneness to make a diagnosis of organic disease of the heart seems to be due to the misinterpretation of systolic murmurs heard in the region of the heart, and especially at the apex. If a systolic murmur in the region of the apex is due to a leak at the mitral valve, there is almost invariably an alteration in the size of the heart, in the position of the apex beat, and in the intensity of the pulmonary second sound. Hume asserts that a systolic murmur without the accompanying evidences of dilatation and hypertrophy of the heart can be disregarded.

Of the patients with obvious valvular disease of the heart, 56.3 per cent. had suffered from rheumatic fever. Into the same category fall many who are convalescent from infectious diseases, namely, the enteric group of fevers, influenza and trench fever. In the tachycardia following shell shock and in neurasthenics the fault lies in the nervous innervation of the heart rather than in the heart muscle itself.

No matter how the condition may be produced, the rationale of treatment is the same in all cases. The most important factor in all cases is the abolition from the patient's mind of the idea that he has a diseased heart. Good food, undisturbed sleep and outdoor exercise, regulated and under discipline, are the sole factors necessary for the improvement of all types. By this method 50 to 60 per cent. can be sent back to their original work after four to five weeks. The remaining 40 to 50 per cent. are unable by reason of poor physique, actual disease, or of age to undertake every kind of work and hardship. Apart from those who suffer from actual heart disease or some organic disease of other systems, nearly all are fit for some service in France.

20. **Delayed Primary Suture of Wounds.**—The term "delayed primary suture" the authors have applied to all cases of suture performed in the first five days after infliction of the wound, with the exception of those closed at the preliminary cleansing operation. It is a suture performed before the full development of granulation tissue and before complete establishment of the natural defenses of the body by active immunization. Of 290 consecutive gunshot cases, thirty-six were sutured within five days of being wounded. Five of these were not up to suture standard and were closed tentatively. The remaining thirty-one cases, 10.7 per cent. of the whole series arrived at the base up to suture standard. Of these thirty-one cases, twenty-eight made a perfect recovery being healed on an average of 10.5 days from the date of suture. The remaining three cases were partially successful. Carrel's bacteriologic standard was of the greatest value in the choice of wounds for delayed primary suture. Morrison and his associates remark that the importance of *suture précoce* cannot be overestimated. At no period is a wound so easily closed as it is before the onset of cicatrization and fixation of tissues in abnormal positions. Not only does closure of a wound obviate the danger of secondary infection and the expense and pain of many dressings, but leads to the quickest and most perfect restoration of function. To be able to close wounds of soft parts and to convert compound into simple fractures is the ideal of military surgery. That this has been attained in 10 per cent. of cases recently arriving from the front the authors believe is a tribute to the work of the casualty clearing stations.

Medical Journal of Australia, Sydney

March 16, 1918, **1**, No. 11

23 Clinically Aberrant Form of Acute Poliomyelitis. A. Breinl.—p. 209. To be continued.
24 Soldiers' Eyesight. F. A. Pockley.—p. 214.

March 23, 1918, **1**, No. 12

25 Clinically Aberrant Form of Acute Poliomyelitis. A. Breinl.—p. 229.

March 30, 1918, **1**, No. 13

26 Diagnosis and Treatment of Syphilis on Active Service. G. G. Anderson.—p. 251.

Archives des Maladies de l'App. Digestif, etc., Paris

March, 1918, **9**, No. 9

27 *Dilatation of Stomach from Atony. L. Timbal.—p. 481.
28 *Appendicitis in the Gassed. F. Moutier.—p. 493.
29 *Physiology of Rectum. Friedel.—p. 505.
30 *Chronic Inflammation of the Intestines. A. Mathieu.—p. 515.

27. **Dilatation of Stomach from Atony.**—Timbal insists that hypersecretion in the fasting stomach is not necessarily a sign of ulceration. It may be a consequence merely of atonic dilatation. The resulting motor disturbances and stagnation of stomach contents irritate the walls, and secondary Reichmann's disease follows. As the motor functioning returns to normal, the secretion becomes more regular. Contrary to the hypersecretion with ulcer, with dilatation the hypersecretion is always pure at first, without admixture of lactic acid. The hypersecretion with dilatation from atony does not require direct treatment. What is needed is to overcome the atony. These patients are debilitated, thin and nervous, and should be treated on this basis. As they become better nourished and stronger, the atony subsides, and along with it the tendency to hypersecretion.

28. **Appendicitis in the Gassed.**—Moutier says that in addition to the ulcerations that have been noted in esophagus, stomach and upper bowel from the toxic action of chlorin gas shells, he has witnessed a number of cases in which the appendix evidently shared in the lesions. He describes six cases in detail in which the appendix had been previously supposedly sound, and three in which there had been a previous suggestion of appendix mischief. The "incubation" was five to eight days in the first group, and twice this or more in those with old lesions. The symptoms did not indicate serious disturbances, and they subsided under local applications. He does not attempt to decide whether the appendicitis is the result of swallowing some of the gas or of a general toxic action.

29. **Physiology of Lower Intestine.**—Friedel's research was on the sigmoid flexure and rectum. He studied the sensibility, motor function, secretion, absorption and the act of defecation. He emphasizes the importance of gases for the act of defecation, although in some persons they are always absorbed before reaching the anus.

30. **Chronic Catarrhal Inflammation of the Intestines.**—This article, found among Mathieu's papers after his death, is a review and comment on Crämer's book with this title published in 1914. He takes issue with Crämer in a number of points.

Archives de Médecine des Enfants, Paris

April, 1918, **21**, No. 4

31 *Walled-in Meningitis. M. Acuña and A. Casaubon.—p. 169.
32 Insular Sclerosis in Youth. P. Gautier and C. Saloz.—p. 199.
33 Hypertrophic Stenosis in Infants. J. Comby.—p. 205.

31. **Walled-in Meningitis.**—This is not a good translation of the original title, "Formes cloisonnées et ventriculaires à cavité close de la méningite cérébro-spinale epidémique," but it expresses the main feature of the cases, the lesion inside the ventricle, without communication with the rest of the skull contents and spinal cavity. This form has been described in adults, but this article is devoted to its occurrence in infants and young children. There may be several walled-in foci and ordinary serotherapy does not reach them. In one of the various cases described, necropsy showed besides the walled-in suppuration in the ventricles, adhesions along the spinal meninges, with formation of isolated pockets of suppuration. Lumbar puncture was repeatedly negative. The anatomic conditions in young infants favor this development of the disease in isolated foci, as the openings for communication are proportionately very small and easily become plugged by the purulent secretion. The meningitis in infants is liable to develop insidiously and escape recognition for some time. This prevents early effectual serotherapy. By the time the serotherapy is begun, adhesions have already developed and closed cavities resulted. The lumbar puncture fluid then grows more and more limpid and scanty, while the general condition and signs of intracranial pressure are growing worse—the reverse of the usual course. The serum injected into the spinal canal is not absorbed. An instructive reflex phenomenon follows intravenous injection of 0.5 to 1 c.c. of the serum. In from ten to thirty minutes symptoms develop suddenly suggesting an anaphylactic shock, congestion of the face and disordered respiration and heart action. All this subsides in four or five minutes; it might be explained by the sudden congestion induced by the intravenous injection raising the pressure in the floor of the fourth ventricle. All the protracted cases of epidemic meningitis are probably of this walled-in type. The antiserum should be injected into the ventricles as well as into the spinal cavity. Seven instructive cases are described in detail in infants from 2 to 28 months old, with the necropsy findings in six cases. The effect of the intraspinal serotherapy was prompt and satisfactory, but it had no action on the disturbance in vision in the one child that did not die.

Archives de Médecine et de Pharm. Militaires, Paris

November, 1917, **68**, No. 5

34 Arrangement of the Surgical Service of the Army. G. H. Lemoine, Dupuich and G. Lardennois.—p. 673.
35 The Advanced Surgical Stations. J. Okinczyc.—p. 694.
36 The Central Sterilization Post. E. Rousseau.—p. 711.
37 *Shortening Sound Femur. J. Calvé and M. Galland.—p. 727.
38 Skin Diseases in Colonial Troops. Gougerot.—p. 744.
39 Eyelid Reflex from Auditory Stimulus. G. Poyet and M. Lallemant.—p. 754.
40 Frame for Lifting the Wounded in Bed. L. Bois.—p. 763.
41 *Conclusions Adopted by Third Interallied Surgical Conference.

37. **Shortening the Sound Femur to Match.**—Calvé and Galland have worked out a technic which gives the maximum of security and precision for shortening the sound mate to correspond with a limb shortened by disease or a war fracture. The sound femur is sawed transversely and then the end of each stump is cut off slanting except that the lower stump has a piece left at the higher end of the slant. The outline of the part cut out is thus a triangle. The part left serves as a tenon to fit into the other slanting stump which serves as the mortise, a corresponding inset having been cut out of the second stump. The two stumps thus fit solidly together and hold firm against pressure from any direction. The sawing of the slant is done with a small circular saw, run by Albee's electric motor, and the tenon is cut with an arrangement of two very small twin saws, the distance between being the desired width of the tenon. The leg is then placed in a plaster cast which includes the pelvis and base of the chest with a strap over the shoulder. Their roentgenograms show that the results were extremely satisfactory in a boy of 13 with a shortening of the leg from an old tuberculous process. The anatomic condition entailed a shortening of 6.5 cm., and the vicious attitude additional shortening of 5 cm. Osteotomy was done on the crippled limb and the sound femur was shortened by the above technic. The difference between the length of the legs is now only 1.5 cm.

41. **Conclusions Adopted by the Interallied Surgical Conference.**—This conference was held last November to discuss treatment of osteomyelitis, fractures of joints, remote results of treatment of fractures of long bones, complications of skull wounds, and thoraco-abdominal wounds and wounds of nerves. In regard to fractures of joints, the trend was toward the maximum of conservation; defective functional results can be treated by orthopedic resection later. Fractures of the femur were said to give only mediocre results on account of the usual extent of the wound, inadequate reduction and contention plus infection. Primary suture is giving much better results. On the whole, the transformation of chemical into mechanical sterilization of the wound is gaining ground more and more as the war progresses. The disappointing results of operations on nerves were ascribed to the usual long delay before the operation is done, but at the same time it must not be attempted while there is any suppuration. The conference also modified some of the conclusions that had been adopted at the preceding conference. The primary suture

then was regarded as only exceptionally indicated, but it is said now to be the general method of treatment.

The advisability was suggested of holding a conference of bacteriologists to determine exactly which germs are most to be dreaded with the primary or postponed primary suture. To date, the streptococcus and the spore-bearing anaerobes are incriminated and possibly the proteus. Alkaline treatment of the acidosis with gas gangrene has given encouraging results. Some patients have been given specific serotherapy, antiperfringens, etc. The latter seems to have aided in warding off gas gangrene in certain cases, given as a preventive. The treatment of shock has also been modified to conform to the three processes involved, the hemorrhage, the infection or intoxication, and the true shock. The number of red corpuscles in the venous blood during the first few hours after the wound reveals whether there has been much hemorrhage from the wound on the limb. Transfusion is useful here. In true shock, heating the bed is the main thing. English surgeons advocate intravenous injection of 500 c.c. of a 4 per cent. solution of sodium bicarbonate. No other saline solution has given conclusive results to date. The conference emphasized the immense progress realized in treatment of fractures by adoption of a unified plan.

Bulletins de la Société Médicale des Hôpitaux, Paris

Jan. 25, 1918, **42**, No. 3

42 Circulation in Arm after Chest Wound. H. Vignes.—p. 66.
43 *Benzene in Leukemia. H. Vaquez and J. Yacoel.—p. 68.
44 *Rat-Bite Disease. H. Grenet and Lehucher.—p. 73.
45 Epidemic of Bacillary Dysentery. Florand, Bezançon and Paraf. —p. 81.
46 *The Heart in Scarlet Fever. Florand and Paraf.—p. 84.
47 *Epinephrin Test of Functional Capacity of the Heart. Loeper, Wagner and Dubois-Roquebert.—p. 90.
48 Intestinal Parasites in the Troops. De V. de Lavergne.—p. 95.
49 Distomatosis of the Liver. De V. de Lavergne.—p. 97.
50 Congenital Hemolytic Jaundice. L. Giroux, Verdier and Forestier. —p. 98.
51 Congenital Cystic Pemphigus. L. Giroux.—p. 102.
52 Total Inversion of Viscera. L. Moreau.—p. 104.

43. **Benzene in Treatment of Leukemia.**—Vaquez and Yacoel report three cases of leukemia which confirm anew the favorable action of benzene (benzol, C_6H_6) in this disease. They tabulate reports from eleven other clinicians, all showing improvement in the general health, and reduction in the size of the spleen and in the numbers of leukocytes, while the numbers of reds increased. The most striking change was in the patient of F. Deutsch whose whites dropped from 836,000 to 7,000, but Frank Billings has reported a case not far behind this. Even with a pathologic increase in the reds, the benzene has likewise a regulating effect, but its leukolytic action is so pronounced that when given in the dose sufficient to reduce the reds from 8 to 6 millions, it reduced at the same time the whites down to 1,200. The leukocytes of normal persons are quite resistant to the benzene, comparatively speaking. Given parallel to a healthy person and to a patient with leukemia, the whites in the former dropped from 7,800 to 3,000 while in the leukemic it dropped from 800,000 to 16,000. They begin by giving 40 drops of benzene a day, increasing to 100 drops by the fifth day. This is continued during the first twelve days of each month, examining the blood every week and watching over the urine likewise. If the leukocytes are being destroyed too rapidly, the drug should be suspended for a fortnight. They give the benzol in capsules or in wine or milk. Given in this way it can be kept up for months. A supplementary course of radiotherapy may be useful. They alternate the courses of each. The patients in the cases reported were a man and a woman of 50 and 51 and a young soldier. The stimulating effect on the blood-producing organs is shown by the drop of whites from 525,000 to 15,000 in one case seven weeks after the benzene had been begun, while the hemoglobin has reached 75 per cent. and the reds gone up from 3,500,000 to 5,000,000. After this the whites ranged between 8,000 and 12,000, and the general condition has kept satisfactory.

44. **Rat-Bite Disease.**—Two typical and two abortive cases of rat-bite disease are described, all with the characteristic long incubation, two, three or four weeks after the bite of the rat, then the lymphangitis, adenitis, induration of certain muscles, more or less extensive exanthem, and attacks of fever. Sometimes the fever is very high, but it does not last long, and the attacks are separated by about five days of complete apyrexia. The lymphangitis drags along for more than a month. Bacteriologic examinations were negative, and no effect was apparent from the usual antipyretics. No attempt was made to give arsphenamin, although this has proved successful in certain cases on record. The five-day periodicity of the fever suggests the "five-day fever" of the Germans.

46. **Cardiac Manifestations of Scarlet Fever.**—Florand and Paraf report complications on the part of the heart in fourteen out of twenty-seven scarlet fever cases during a recent brief period. The mitral valve was the one affected; the aorta did not seem to be involved. In four cases the valvular lesion persisted in a chronic form; in the others all signs of the heart complications disappeared, leaving merely palpitations and instability of the pulse. De Massary, in the discussion that followed, said that in his latest series of 355 cases of scarlet fever in soldiers, there was nothing to suggest that either the endocardium or pericardium had been affected, except in those who presented signs of established heart or vascular disease when first seen. He has encountered a typical case of aortic insufficiency developing in the course of scarlet fever in a young woman and persisting to date, but in his experience such complications are rare. In the series of scarlet fever cases in the military hospital, a few of the men complained of pains suggesting rheumatism, but they always yielded promptly to sodium salicylate. The arterial pressure was always high, but there were few cases of renal complications; only two cases of early and transient hematuria and seven cases of tardy and tenacious albuminuria. No special treatment was given, merely rinsing the throat and gargling often with sodium bicarbonate, two teaspoonfuls to the liter, and three times a day a medicated oil was instilled into the nose; restriction to milk for ten days, then milk and potato purée, then vegetables, and the full diet the last ten days. Netter told of a case of severe scarlatinal myocarditis in which epinephrin internally had resulted in an absolutely unanticipated cure. Epinephrin, he remarked, renders incomparable service in such cases. Complications on the part of the heart are rather frequent in children. They generally coincide with joint complications and sometimes with chorea.

47. Summarized page 1195, abstract 75.

Journal d'Urologie, Paris

March, 1918, **7**, No. 2

53 *Anaerobic Gangrene of Bladder. F. Legueu.—p. 105.
54 *Military Aspect of Stricture of Urethra. O. Pasteau.—p. 117.
55 *War Wounds of Kidneys. P. Noguès.—p. 123.
56 *Cancer of Kidney. R. de Berne-Lagarde.—p. 135.
57 Calculus with Stricture of Urethra. Maringer.—p. 143.
58 War Wounds of Urethra. Hourtoule.—p. 147; Rousseau.—p. 149.
59 *Extraction of Hairpin from Bladder. F. Legueu.—p. 151.
60 *Conference of Army Urologists.—p. 155.

53. **Anaerobic Gangrene of Bladder.**—Legueu's patient had retention of urine two days after an operation for extraction of shrapnel balls in buttocks and pelvis. The daily catheterization set up anaerobic gangrene and thick pus was rinsed out. When the bladder was opened, what was supposed to be omentum, covered with calcareous concretions, presented in the opening in the bladder, and a rupture of the bladder was assumed. But when this thick tissue was lifted up, it proved to be a loose sac, the inner lining of the bladder. As it was lifted out, the stench was terrible. The vessel walls were thick and red but did not bleed, and under frequent lavage with tepid oxycyanid the bladder gradually returned to normal size. Recovery was afebrile, but one kidney later required nephrotomy. Certain symptoms now suggest incipient disease in the other kidney. Legueu incriminates the catheter required for the accidental retention of urine as responsible for the introduction of the anaerobes.

In another case a woman at the eighteenth day of mild typhoid developed signs of infection of the nervous system,

with retention of urine. Eight days after the beginning of the urine trouble, what seemed to be a false membrane protruded from the urethra. Legueu was able to extract it through the urethra and it proved to be a sac, the cast off inner lining of the bladder, studded with calcareous concretions. The woman is recovering and micturition is normal, but there was incontinence of urine for ten days. He cites a few cases of this desquamating gangrene on record. The retention has always been regarded as responsible for the distention, but its rôle is indirect, as it acts only by compelling catheterization. He isolated from his latest case Jungano's anaerobic *Bacille neigeux*. The mucosa has rapidly regenerated in the cases on record, but incontinence is liable. The soldier still is wearing a urinal six months later, this false incontinence being the result of the small capacity of the bladder. Ascending pyelonephritis is liable to develop at any time.

54. **Urethral Stricture from the Military Standpoint.**—Pasteau advises that in all cases in which the complications are the predominant feature, the men should be sent to hospitals in the home zone for treatment. Stricture without severe complications should be treated in the genito-urinary special centers with the army, or in the interior, if the stricture can be overcome with progressive dilatation or urethrotomy. If not amenable to this treatment, the men should be transferred to the auxiliary service or dismissed. Men with stenosis of the posterior urethra (fracture of the pelvis), are unfit for any military service.

55. **War Wounds of the Kidney.**—Noguès discusses what should be done at the advanced surgical station for war wounds of the kidneys.

56. **Cancer of the Kidney.**—Lagarde describes in detail a case of epithelioma developing in a kidney subject to hydronephrosis. Hematuria was the first symptom, and nephrectomy was done in two months, with smooth recovery.

59. **Extraction of Hairpin from Bladder.**—Legueu slips a long hook, something like a buttonhook, through the cystoscope arranged for unilateral catheterization. As the hook seizes the hairpin and pulls on it, the hairpin swings around to present its rounding end to the hook, and it is easily removed.

60. **Conference of Army Urologists.**—The two subjects of the addresses and discussions were war wounds of the bladder and urethra, and what should be done for soldiers with incontinence of urine. The conclusions adopted favored emergency cystostomy for wounds of the bladder or urethra. The principle of primary suture cannot be applied in these cases. Incontinence of urine requires examination by a specialist. The man should be given treatment for not longer than two months. If the general condition is good and the incontinence is found to be incurable, at least within two months, the man should be sent back to the ranks. The conference emphasized the importance of specialist centers where the men with urinary disease can be sorted out, and those that can be treated there retained, and the others sent back to the interior. The necessity for keeping records of the health and hospital history of each man in the force was also emphasized. The diagnosis and the treatment should be recorded, and the case history should go with him or follow him to each hospital he enters.

Lyon Médical

March, 1918, **127**, No. **3**

61 *Radium in Gynecology. R. Condamin and L. Nogier.—p. 97.
62 *"Mustard" Gas. R. Rendu.—p. 108.

61. **Radium Therapy in Gynecology.**—Condamin and Nogier give the details of six cases which show the great advantages of radium treatment in its own special field, namely, for inoperable and recurring uterine cancer, for fibroma when an operation is inadvisable, and also preliminary to or following operative measures. They state that war conditions have evidently cooperated in allowing uterine cancers to get beyond the operable stage before they reach a physician. Since 1914 they have applied radium therapy in 500 cases of this kind. In one case an abdominal tumor reached two fingerbreadths above the umbilicus, in a girl of 12, with extreme cachexia and retention of urine. Under forty-eight hours of application, the radium in the center of the growth, the tumor disappeared completely and perfect health was restored. The total dose given was 24.03834 millicuries. No microscopic examination was made of the neoplasm tissue, as a complete necropsy in a short time was confidently expected. The tumor was undoubtedly malignant and originated in the ovary. It was as large as the child's head. The condition grew graver during the first two or thre weeks after the exposure, evidently from absorption of toxins. This confirms the wisdom of removing all that can be easily removed of an inoperable tumor before applying the radium. In some of the cases reported this was done so effectually that there was no nausea, fever or other sign of toxic action after the exposures. In a case of inoperable cancer of the uterine cervix in a woman of 50, the cure has been complete for three years to date. The patient has complained at times of slight pains in and around the uterus, but there is no sign of recurrence, and the pains are probably from compression of some nerve fibers in the scar tissue. In this and similar cases, the whole of the uterus has atrophied so completely that there is no need for the proposed hysterectomy. One disadvantage of preoperative radium treatment is that the patients feel so much improved, that they then withdraw their consent to an operation. A week after hysterectomy, in another case, radium was applied to the sound tissue left, and a severe toxic, febrile reaction followed, showing that the by-effects of radium occur with sound as well as with diseased tissue. In one woman of 36 the cancer returned three years after hysterectomy, but the recurring tumor disappeared under radium treatment, and there has been no further sign of malignant disease during the nearly three years to date.

62. **Effects of "Mustard" Gas.**—Rendu describes the lesions induced in the upper air passages by the new *gaz vésicants* used by the Germans. They are all practically alike, resembling a burn of the second degree, and leaving white eschars. The latter are most frequent on the anterior two thirds of the free margin of the vocal cords.

Nourrisson, Paris

March, 1918, **6**, No. 2

63 *Roentgen Aspects of Rachitis. E. A. Weil.—p. 65.
64 Mercuric Lactate for Syphilitic Infants. A. B. Marfan.—p. 86.
65 Arresting the Decline in the Birth Rate. E. Apert.—p. 94.
66 *Glycuronuria in Infants. R. Raimondi.—p. 104.

63. **Roentgen Findings in Rachitis.**—Weil remarks that the lesions of rachitis are best studied, usually, on the wrist and hand or on the knee, as he describes in detail, with eighteen illustrations. He emphasizes in particular the opaque border of the end of the bone next the cartilage, *le signe de l'os bordé*, early in rachitis. This indicates that ossification is more intense here, while the rest of the bone shows decalcification. The ends of the shaft also spread out broad, or show a mushroom-like protuberance on the end, or they cast a cupule-shaped shadow. In advanced cases there may be two or four dark strips in the end of the shafts. When rachitis is acquired near puberty, the roentgen findings resemble closely those in young rachitic children. The roentgen findings with osteomuscular dystrophy and tendency to stunting of the growth differ from those of rachitis. In a case of tendency to dwarfism of this type, he applied moderate roentgen treatment to the ends of the long bones. The boy of 11 had shown no sign of growth of the bones for several years. The ossification in his knees was no farther advanced than in a normal child of 5, and the shadows closely resembled those of early rachitis. The growth was accelerated by the roentgen exposures.

66. **Glycuronuria in Infants.**—Raimondi extols the determination of the glycuronic acid in the urine of infants as a simple, easy and rapid test for estimating the functioning of the liver. With hypoglycuronuria the food should be changed and measures taken to stimulate liver functioning (calomel, opotherapy, alkalines and camphor). These conclusions are based on the study of the urine of twenty-one infants, healthy,

frail or diseased, supervised for several months in the Paris Institut de Puériculture. Comparative tests were made with different technics for determination of the glycuronuria and Roger's method was found most sensitive and reliable. It was described in detail in The Journal, Jan. 13, 1917, p. 152.

Revue Médicale de la Suisse Romande, Geneva

March, 1918, **38**, No. 3

67 *Medical Inspection of Rural Schools. C. Pahud.—p. 169.
68 *Mitral Stenosis and Tuberculosis. R. Burnand.—p. 182.
69 *Femoral Hernia. A. Kotzareff.—p. 188.
70 Progressive Scleroderma in Child. L. Exchaquet.—p. 197.
71 Cesarean Section at Term with Fibromas. Veyrassat.—p. 204.

67. **Medical Inspection of Country Schools.** — Pahud describes what has been accomplished in the canton of Vaud, Switzerland, on behalf of the schoolchildren outside of the large cities. He practices in the little town of Romainmotier, and he has inaugurated a system of thorough physical examination of all the schoolchildren once a year, including the skin tuberculin tests, with the parents' consent. Those found below par are partially examined again in the fall. An individual record is kept for each child, recording date, age, weight, height, chest measure at inspiration and expiration, vision, hearing, aptitude for work, and previous tuberculin test, with space for remarks by teacher and physician. The teachers superintend the weighing of the children once a month; the height is recorded once in six months, the school rating once a quarter. Douches are given once or twice a week, and sun baths and gymnastics are given daily in pleasant weather, the children in bathing trunks. A conference for parents, to explain the system and especially the advantages of the tuberculin test, is given before the spring main examination. Only for twenty out of sixty-four children were they unable to obtain the consent of the parents for the Pirquet test. Each child is tested separately, with care not to hint at the findings. The whole system is completed and stabilized, he says, by the Assurance-Maladie infantile, a splendid institution, sustained by the canton and the state, which for two or four francs (40 or 80 cents) insures the child against sickness, so that when the parents are informed that their child is physically backward or the Pirquet test is positive, and medical care and measures are required, this is all provided for without further expense to the parents, by this insurance which, Pahud remarks, should make all the other cantons green with envy. The day is not far distant, he adds, when all the expense of the insurance will be borne by the community, and then the health of the country schoolchildren will be placed on a solid basis. Medical school inspection is incomplete and fails of its purpose unless supplemented by opportunity for medical treatment for which the parents do not have to count the expense. In conclusion Pahud mourns that the care of the teeth is still a weak link in the chain. Among 66 children examined, 14 had one or two decayed teeth; 30, two or three; 12 from three to five, and 9 more than five. Almost always the first lower molars decay first.

68. **Mitral Stenosis in Connection with Pulmonary Tuberculosis.**—Burnand comments on the three aspects of this connection, namely, (1) that mitral stenosis tends to protect the lungs against tuberculosis by the chronic stasis which it induces; (2) that mitral stenosis is often of tuberculous origin, and (3) that mitral stenosis may induce a set of symptoms in the lungs deceptively simulating those of tuberculosis. These three conceptions are less contradictory than they appear at first. The third type may be the result of the impeded circulation in the lungs associated with some minute and latent tuberculous apical focus. In a case described in detail the young man with mitral stenosis had been always frail, and suddenly he had a profuse hemoptysis (1 liter) but there was no cough or expectoration. A few months later there was another hemorrhage, after exertion, and this time there was fever for ten days. The course of the case confirmed the assumption of congestive tuberculosis of the lungs with no tendency to destructive processes. Burnand reports further six cases of pure mitral stenosis with a similar mild fibrous tuberculous process at one apex; two cases in which the tuberculous process developed with a somewhat graver course, and three cases of mitral stenosis and insufficiency with a mild apical process. All but two of these eleven patients were women. Only three had a history of acute articular rheumatism. Nearly all the others had an inherited tuberculosis taint, and some had previously shown symptoms of tuberculosis, but in all but two the tuberculosis had always maintained a mild attenuated character, inflammatory, never destructive. Hemoptysis was the most constant and striking feature of the cases.

69. **Femoral Hernia.**—In Kotzareff's experience and from what he can gather from the literature, femoral hernia seems to be more common in women than in men, and it occurs predominantly on the right side. He describes the anatomic conditions responsible for this, and emphasizes that in the operation the fibrous ring is what has to be severed, and not the adjoining ligaments. It is this fibrous ring that is responsible for the strangulation. He prefers the Berger technic for herniotomy, but instead of three loops of the suture material he takes only one, passing it through the pectineus muscle and aponeurosis, bringing it out near the sheath of the vessels, traversing Poupart's ligament, and back to the pectineus aponeurosis. To reenforce this suture, he takes several slanting sutures to unite this aponeurosis with Poupart's ligament, thus completely and solidly occluding the opening, as he shows in an illustration.

Policlinico, Rome

March 17, 1918, **25**, No. 11

72 *Adenoids with Pituitary Feminism. S. Citelli and P. Caliceti.—p. 245.
73 Antipyogenic Serotherapy for War Wounds. R. Mosti.—p. 251.
74 *Hot Paraffin Bath for Infected War Wounds. A. L. Soresi.—p. 253.

March, 1918, **25**, Medical Section No. 3

75 Paralysis of Peripheral Nerves. S. Ricca.—p. 65. To be continued.
76 *Action of Asphyxiating Gases. D. de Conciliis.—p. 88.

72. **Pituitary Feminism with Adenoids.**—Citelli reports three more cases of adenoids injuring the pituitary body enough to modify the development of both body and mind. The coexistence in the three soldiers of a feminine type of body, lack of sexual appetite, and rise in temperature and general disturbance after injection of pituitary extract, all confirm this theoretical explanation of the abnormalities observed. There was no tendency to eunuchoidism. Such cases emphasize the importance of early removal of adenoids, supplemented by pituitary extract treatment, when an inherited or acquired predisposition to pituitary or psychic abnormality is detected.

74. **Pasteurization of Infected Wounds.**—Soresi places the limb in a deep bath of paraffin, kept at a temperature that pasteurizes the tissues. His clinical results with this method have been better than with any other technic he has tried, but he had not been able, at date of writing, to obtain bacteriologic control of the sterilization actually realized by this method of active hyperemia.

76. **Injury from Gassing.**—De Conciliis insists that the inflammation in the bronchioles is the most important pathologic localization of the action of the asphyxiating gases. The edema of the lungs is secondary in importance, in the cases in which death does not occur at once. The bronchioles contract as the gas comes in contact with them, and hence bear the brunt of the attack while the alveoli beyond are saved for a time. The pathognomonic lesion is a fibrinous bronchiolitis or fibrous stenosis of these passages. Treatment, therefore, should be with pneumotherapy, associated with medicated air, and kept up even after the anatomic cure. By this means we ensure the ventilation of the lungs, the air hunger being the main source of the atrocious sufferings of the gassed and the cause of death.

Riforma Medica, Naples

March 9, 1918, **34**, No. 10

77 Fat Grafts to Fill Gaps in Bones. L. Caforio.—p. 182.
78 Protracted Pneumonia and Traumatic Pulmonary Tuberculosis. A. Rossi.—p. 188.

Boletin de la Asociacion Medica de Puerto Rico, San Juan

March, 1918, **14**, No. 118

79 *Anaphylatoxin and Anaphylaxis. F. G. Novy and DeKruif.—p. 175.
80 *Pituitary Extract in Obstetrics. D. P. Marchand.—p. 186.
81 Magnesium Sulphate in Tetanus. M. Janer.—p. 190.
82 Ether or Chloroform J. S. Belaval.—p. 194.
83 Stab Wound of Lung. A. Santaella.—p. 200.
84 *The Cancer Question. J. del Toro.—p. 202.
85 *Cancer as Problem of Social Medicine. J. Aviles.—p. 207.

79. **Anaphylatoxin and Anaphylaxis.**—This is mostly a translation of Novy's work published in THE JOURNAL, May 26, 1917, p. 1524.

80. **Abuse of Pituitary Extract in Obstetrics.**—Marchand relates that the midwives in her district have learned to appreciate the potent action of pituitary treatment, and they are using it blindly in all kinds of obstetric cases. Delivery is accompanied by lacerations and other complications from this routine use of pituitary extract. She urges restriction in its sale, as it is a weapon too dangerous for the hands of ignorant midwives. In a recent case, she was called to a primipara who had been given four injections of the pituitary extract. The woman was moribund, lying in a pool of blood, the inverted and relaxed uterus exposed to view. In a second similar case Marchand had time to reduce the uterus and combat the collapse following the terrific hemorrhage. This primipara had been given three injections when the cervix had barely begun to open. In these cases the judicial reprimand of the midwife did not help her victim. Even in skilled and experienced hands, pituitary extract must be handled with caution, respecting its still unknown total effects. Restrictions have been imposed by the Harrison law on the sale of narcotics, and she urges similar safeguards against certain other dangerous drugs now used freely.

84. **Cancer in Porto Rico.**—Del Toro states that cancer has formed from 1.09 to 1.35 per cent. of the total mortality of the island since 1912. In the public hospital there have been 151 cases of cancer since its opening in 1909; the growth was inoperable in almost 50 per cent. Only 12 per cent. of the cases were in a promising condition for operation. The uterus was the seat of the malignant disease in over 33 per cent.; the mamma in about 8 per cent. He warns that even physicians are not always insistent enough for a prompt operation; they are liable to delay for absolute certainty, or to try this or that treatment, or they send the patient to the continent for radium treatment. He emphasizes that the progress of surgery has deprived it of so much of its dangers that an operation should no longer be reserved for a last resort, and he warns that to wait for the classic symptoms of malignant disease dooms the patient.

85. **Cancer and Social Medicine.**—Aviles quotes some figures to the effect that while 659,528 persons died in the Civil War, there were 1,021,513 deaths from cancer alone in the United States between 1900 and 1915. There is a death from cancer every six and a half minutes. In Porto Rico during 1915 there was one death from cancer every day, and in the city of San Juan last year three deaths every month. In 1890, Agnew of Philadelphia declared that there never had been a case cured of mammary cancer, but Halstead the same week operated on a patient who was entirely free from cancer when examined in 1913. Fully 60 per cent. of the deaths from cancer might have been avoided. Aviles urged the medical association to cooperate with the Public Health Service to publish circulars to educate the public, with lectures for those who cannot read or do not get the circulars. He also advocated frequent discussion of cancer problems to disseminate all that can be learned on the subject. He added that it would be a good plan for women's clubs to be enlisted in the work of educating the public in respect to cancer, and getting the press to aid the propaganda.

Medicina Ibera, Madrid

Feb. 14, 1918, **2**, No. 15

86 *Tuberculin Treatment of Pityriasis. J. S. De Grado.—p. 193.
87 *Gangrene from Arterial Obstruction. Blanc y Fortacin.—p. 197.
88 Ulceration from Mortification of Tissues. Sicilia.—p. 199.
89 Influence of Gouty Tendency and Endocrine Disturbance on Heart Disease. Huertas y Barrero.—p. 222. Continuation.

86. **Pityriasis Rubra Pilaris.**—De Grado's experience with the case described confirms the assumption that the tubercle bacillus has something to do with this disease. Under diagnostic injections of tuberculin the lesions showed a typical response, and under tuberculin injections and application of 4 per cent. salicylate salve great improvement was realized in the young man.

87. **Arterial Gangrene.**—In Blanc's case the gangrene from obliteration of an artery was too far advanced for any treatment except amputation. The site for the amputation was decided by applying an Esmarch band. After its removal the blood rushing into the limb colored it pink in all the regions where the blood circulated. The line where the tint remained unmodified was the limit of sound tissue. In another case of incipient gangrene, he had fair results from anastomosis between the artery above the obstruction and an adjoining vein. This transformed the vein into a kind of artery. It became dilated and the aspect of its wall changed to resemble an artery wall. The central stump of the vein was ligated above.

Hygiea, Stockholm

Sept. 30, 1917, **79**, No. 18

90 Pyocyaneus Otitis Media. H. Key-Aberg.—p. 926.
91 Axis of Rotation and Axis of Joints. C. Hesser.—p. 938.

Revista Sud-Americana de Endocrinologia, Buenos Aires

January, 1918, **1**, No. 1

90 *Plague Pseudo-Tuberculosis. S. Dessy.—p. 5.

90. **Plague Pseudotuberculosis.**—Dessy reports the case of a working man of 26 who died eighteen days after the physician had been called on account of symptoms ascribed to typhoid fever. Necropsy showed, however, that the intestines were free from ulceration while the liver contained numerous nodules resembling those found in rats with plague; the lungs presented the aspect of miliary tuberculosis. If it had not been for the nodules in the liver, the case would have been recorded as a matter of course as miliary tuberculosis. But the microscope revealed in six hours the presence of the plague coccobacillus in the condensation water of agar tubes inoculated with material from the lungs and liver. Inoculation of laboratory animals confirmed the diagnosis. The histologic findings are reproduced. They suggest that the infection occurred by way of the intestines, passing thence in the blood to the liver and lungs. The nodular lesions show that the plague bacteria in question were not very virulent for the human organism, although they induced plague septicemia in white rats and guinea-pigs, fatal in forty, fifty-six or seventy-five hours.

Semana Medica, Buenos Aires

Jan. 17, 1918, **25**, No. 3

91 General Principles for Vaginal Operations. A. Chueco.—p. 65.
92 Provisions for Care of the Sick and Poor at Buenos Aires. E. R. Coni.—p. 79. Continuation.
93 *Retrocursive Epileptic Seizures. G. Mingazzini.—p. 88.

Jan. 24, 1918, **25**, No. 4

94 *Suprarenal Hematoma. F. A. Deluca.—p. 93.
95 Deafness in Schoolchildren. A. Quadri.—p. 97.
96 Symptoms and Findings with Mole. J. C. Berri.—p. 103.
97 *Suprarenal Form of Malaria. C. Fraga.—p. 113.

93. **Retrocursive Epilepsy.**—Mingazzini applies this term to epileptic seizures in which the motor phenomena are almost exclusively merely stepping backward. In another type of seizure there is a tendency to run in a circle. He describes the case of a boy of 8 with this retrocursive epilepsy. The boy feels first formication in the left hand, then loses consciousness, and steps backward on a straight line for 3 or 4 meters, and then falls with general clonic spasm. He has been having from ten to fifteen of these seizures a day for the last few months.

94. **Suprarenal Hematoma.**—Deluca reports two cases of placenta previa with child stillborn or dying the fifth day, and necropsy revealed a suprarenal hematoma in each child. The delivery of the one born alive had been difficult and protracted, and inherited syphilis was probable. The third

day the child's pallor attracted attention (hemorrhage), then came jaundice, prostration, and screams of pain; the fourth day convulsions and the fifth, sudden death—this sequence of symptoms explained by the hematoma in the suprarenals. The woman in the other case had been given pituitary extract, and there is a possibility, he suggests, that this might have caused such forcible contractions of the uterus as to compress the fetus' abdomen and force blood out from the inferior vena cava.

97. **Suprarenal Form of Malaria.**—Fraga describes three cases of an evident suprarenal syndrome in the course of malaria, with necropsy in one. They confirm his assertion that we must reckon with a *forma suprarenal de la parasitosis tropical*, and be on the alert to apply the specific treatment. In the severer cases, intravenous injections of artificial serum with epinephrin may tide the patient past the danger point. When the emergency is not so great, ordinary opotherapy may answer the purpose.

Siglo Medico, Madrid

Feb. 2, 1918, **65**, No. 3347

98 Reform in Medical Education. V. Prieto.—p. 82.
99 *Endemic Goiter in Spain. J. Goyanes.—p. 85.

99. **Endemic Goiter in Spain.**—In this instalment of his study of the endemic foci of goiter in the mountain districts of Spain, Goyanes calls attention to the frequency of deafmutism among the families with goiter. Cretinism is common, but exophthalmic goiter is extremely rare. He has photographs of one family in which two of the daughters of a woman with goiter are deafmutes. He has seen a number of deafmutes with goiter in the district of Avila, and also deafmute cretins. The antecedents always showed goiter in the mother or father or grandparents of the cretins.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

March 2, 1918, **1**, No 9

100 *Radioactive Balances. H. Zwaardemaker.—p. 602.
101 *Measures against Plague in Holland. M. A. van Andel.—p. 614.
102 *The Recording of Nystagmus. H. J. L. Struycken.—p. 621.
103 Unilateral Paralysis of Phrenic Nerve. J. Hekman.—p. 625.

100. **Radioactive Balances.**—Zwaardemaker reports here further research on the living isolated frog heart perfused with Ringer's solution made with some radioactive salt in the place of the potassium of the original Ringer solution. There seems to be an antagonism between the action on the frog heart of the radioactive light metals and the radioactive heavy metals. Research in this line has elicited a number of new biologic facts as he describes in detail. Among them is that fluorescein seems to sensitize the heart so that a smaller amount of the radioactive salt has a greater effect than a large amount without it.

101. **Prophylaxis of Plague in Seventeenth Century.**—Van Andel gives the instructions issued by the "plague-master" of Gorinchem in 1601. The plague-master was given a good salary, the records show, and the authorities sustained him in his efforts to check the disease and alleviate the condition of the sick.

102. **Recording Nystagmus.**—Struycken obtains a record of the movements of the eye by photography, using a delicate wire tripod that fits over the eyeball. This shows on the film drum the various types of the nystagmus, horizontal, vertical, undulating, rotatory, circular, etc.

Hospitalstidende, Copenhagen

March 6, 1918, **61**, No. 10

104 *Deforming Spondylitis. K. Malling.—p. 289.
105 *Pseudoleukemia. J. Nordentoft.—p. 298. Commenced No. 8, p. 225.
106 Therapeutic Parenteral Injections of Milk. H. Boas.—p. 309.

104. **The Nervous System with Spondylitis Deformans.**—Malling remarks that it is still a question whether the various forms of chronic spondylitis are separate entities or not. No one seems to have studied the slighter manifestations of deforming spondylitis, and as a contribution in this line he tabulates the findings in twenty-five cadavers from 21 to 80 years old. In none of them had there been any noticeable deformity of the spine or pronounced nervous symptoms during life. In eighteen of the cadavers there were evidences of more or less severe spondylitis, and in two the findings were dubious. Thus only five of the total number were free from exostoses, and none of these were over 50, and only one was a man. He could not find anything to suggest that these exostoses developed inwardly and thus injured the spinal cord or nerve roots. It is possible, however, that in certain cases, pain, sciatica, etc., may be the result of pressure on the nerve at the root. It is a tempting explanation of certain nervous disturbances, such as spastic paraplegia, to assume pressure on the nerve roots by these changes in the vertebrae which are practically constant after a certain age in working people, but Malling warns that this will often lead one on the wrong track.

105. Summarized in Abstract 110, page 1344.

Ugeskrift for Læger, Copenhagen

Feb. 28, 1918, **80**, No. 9

109 *Present Status of Roentgen Therapy, especially for Brain Tumors. S. Nordentoft.—p. 331.
110 *Calomel for Pruritus Ani. O. Hamburger.—p. 347.
111 *Safety Match Box Dermatitis. A. Barfoed.—p. 349; W. Olivarius. —p. 350; S. Lomholt.—p. 351; A. Jacobsen.—p. 352.

March 7, 1918, **80**, No. 10

112 *Orthostatic Albuminuria. V. Scheel.—p. 385.
113 Mania in Deafmute. A. Wimmer.—p. 395.

109. **Roentgen Treatment of Brain Tumors.**—Nordentoft now has a record of twenty cases of brain tumors in which he has applied systematic courses of roentgen exposures. The results are quite encouraging, especially when compared with the 100 per cent. mortality of operative cases of cerebellar tumors in the Scandinavian countries. There is only one case known in Denmark in which a tumor elsewhere in the brain was successfully removed with long survival. He describes his technic and the findings and results in his twenty cases. The favorable experiences in his first series of eight cases have continued to date; there has been no recurrence of the growth or return of symptoms.

110. **Calomel for Pruritus Ani.**—Hamburger has had a number of patients freed from long persisting anal pruritus when they rubbed the region with dry calomel. The part is wiped off first with moist cotton, the finger is moistened, and the powder is taken up on the finger and rubbed into the crevices. The itching generally subsides permanently, or at least for several months, after four or five applications of the calomel.

111. **Safety Match Box Eczema.**—Four writers in turn describe cases of a dermatitis which they were unable to explain in the otherwise healthy patients until they learned of Rasch's experience with local poisoning of the skin from the use of a certain brand of safety matches (Jönköping). In most of them the burnlike dermatitis was on the thighs, corresponding to the trousers pockets in which they carried the match boxes. Rasch's communication on the subject was summarized on page 1344.

112. **Orthostatic Albuminuria.**—Scheel gives an analysis of fourteen *orthotikers*, as he calls them. All were children at about puberty, except four young men and one woman of 33. All gave a normal response to Strauss' accommodation test ingestion of a liter of weak tea in the morning, fasting, after a day of test diet. Orthostatic albuminuria requires no special treatment, but differentiation is extremely important as otherwise unnecessary restrictions and other measures are imposed for the assumed underlying nephritis. This is particularly disastrous in these cases because persons with orthostatic albuminuria are usually frail; some of his patients have shown symptoms of tuberculosis since. Another feature of the cases is the tendency to oxaluria. He found that the albuminuria disappeared completely or became much attenuated when the oxaluria was arrested by giving a level teaspoonful of calcined magnesia two or three times a day. With nephritis, the albumin content of the urine shows little change day or night.